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NATIONAL PETROLEUM NEWS

Volume 34 | May 27, 1942 | Number 21

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JOIN THIS CAMPAIGN!

Backing Petroleum Industry War Council's conservation campaign, oil companies have reproduced the campaign's two war slogans—"Oil is Ammunition, Use it Wisely" and "Care for Your Car—For Your Country"—in individual oil company ads in newspapers; over radio stations; in business, trade and news magazines, in innumerable mailing pieces; on billboards, postage meters and service station posters. Write the P.I.W.C. at 712 Chanin Bldg., New York, N. Y., for details.

Refining Edition

Spent Filter Clay Advantages Seen In Fighting Bombs

Experiments in Pennsylvania refinery center show spent fullers earth has several advantages over sand for both the control and insulation of incendiary bombs. Page R-163.

Methods of Hiking Butane Production Outlined to NGAA

Practical methods for increasing recovery rate of butane at existing installations in gasoline plants are discussed at Natural Gasoline Assn. of America convention. Page R-170.

Hydrogen Fluoride Described as New Alkylation Agent

Advantages of this compound over other commercial catalyst for alkylation and other reactions are discussed by authority based on work done at Pennsylvania State College. Page R-174.

BULLETINS

100-OCTANE PROGRAM

WASHINGTON—OPC has completed its part of the WPB-authorized program for 100-octane expansion, having given technical and economic approvals to contracts for construction of necessary facilities and for purchase of these plants' output, Davies testified May 26 before Cole oil committee. Actual construction, however, has not been completed. Fifty-five plants, present and projected, are involved in program, with 19 majors and 31 independents participating.

* * *

ANTI-TRUST SUSPENSION

WASHINGTON — Suspension of anti-trust laws for any action certified by WPB as requisite to prosecution of the war is provided for in Sumners amendment to Murray Small Business Bill (S. 2250) tacked on by House. Bill now goes back to Senate. Meanwhile, hearings start May 28 on Van Nuys Bill (S. 2431) which provides for similar suspension of anti-trust laws but makes it contingent upon approval by the attorney general.

* * *

CRUDE PRICE HIKE

WASHINGTON—OPA announced May 26 that it had approved a price of $1.30 for crude oil purchased by Shell Oil Co. from Houston Oil Co. in East Texas. Previously, OPA had turned down a request by Houston Oil that it be permitted to charge 5c per bbl. gathering charges, instead of 2½c as it was prior to Oct. 8, 1941.

Counsellors Hired By OPA to Dictate Industry's Policy

CLEVELAND — OPA hires "marketing experts" to "counsel" with oil marketers, telling them how to cut costs so as to "get along" under today's conditions. Price control club—matter of life or death for some businesses—seen as means of persuading jobbers and dealers to adopt suggestions of these "specialists". Page 3.

More Oil Refiners To Make Butadiene

WASHINGTON — Truman committee reveals emergency source of butadiene will be sought by utilizing small refineries even though the cost is much higher. RFC Chairman Jones says increase in synthetic rubber program from 800,000 to 1,000,000 tons yearly is contemplated. Page 15.

Production Quotas Increased by OPC

WASHINGTON—OPC recommendations for June oil production boosted most state quotas and raised the U. S. total to 3,636,300 bbls. daily—an increase of 161,800 bbls. Largest increase was in Texas, where recommended daily output was set at 1,068,600 bbls. compared with 960,000 bbls. in May. Page 20.

Plans Realignment Of Transportation

WASHINGTON—Broad plans are being carried out to replace tankers in hauling oil to the East Coast. This transportation reorganization as outlined by OPC Transportation Director Parten means greater use of trucks; relocation and expansion of existing pipelines; and full utilization of barge facilities. Page 25.

NEWS BRIEFS

There'll be synthetic tires when present ones wear out, so don't get overexcited, Roosevelt tells press conference. Page 3.

* * *

Now 100-octane and butadiene come out at one time. Page 16.

* * *

Two jobber association meetings —O.P.M.A. and V.O.M.A.—hear Dr. Frey. Page 12.

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States' council pledges uniform truck laws. Page 32.

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Shippers await ICC decision on "heavy" oil rate request. Page 32.

* * *

Crude price vs. supply data in California asked by OPA. Page 22.

* * *

Truck co-op in Southeast begins operations July 1. Page 30.

* * *

Rail hauls to East rise to 684,482 bbls. daily. Page 30.

* * *

U. S. plans to absorb extra war costs of tanker hauls. Page 30.

* * *

Wisconsin sets up rules on interstate oil shipments by truck. Page 32.

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March gasoline demand rises 6%, Bureau reports. Page 10.

* * *

Stop-order on oil heating looms in Canada. Page 10.

MERCHANDISING

NPN introduces a series of wartime management aids for oil jobbers. The first of these articles appears this week on Page 34.

MARKETS

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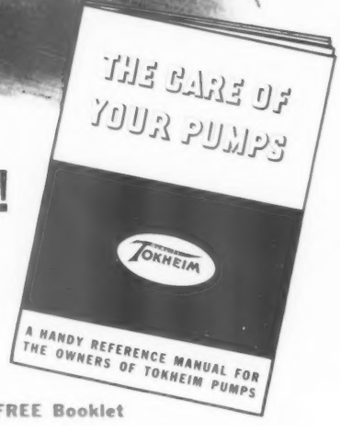
Vital Facts ABOUT THE CARE OF YOUR PUMPS!



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Hiram M. Dow . . . Heads National Conference Of Petroleum Regulatory Authorities

Hiram M. Dow

● For Hiram M. Dow, the chairmanship of the National Conference of Petroleum Regulatory Authorities simply means a chance to practice frontier good sense on a national scale.

That's how the Southwest feels about the appointment of this oil country lawyer, oil man, rancher and public utility official who's a politician in spite of himself and who looks, nonetheless, like the best bet for governor of New Mexico next term. New Mexico's newspaper editors are just about unanimous on that.

Helping to conserve the nation's oil wealth through the N.C.P.R.A., which was organized recently at the call of Petroleum Co-ordinator Ickes, is a job Hiram Dow is fitted for.

Born in a place called Cotulla, Tex., on San Jacinto Day in 1865; packed away to Seven Rivers, N. M., by train and stagecoach at six weeks of age; raised on the salty plains in the days when each man was his own prosecuting attorney and where his father, the sheriff of Eddy County, was ambushed and killed in line of duty; working hard and wasting nothing—these are the things that have made him the man for the job.

Graduating in law from Washington and Lee University, where he held membership in Phi Kappa Psi, Phi Delta Phi Legal Fraternity and Theta Nu Epsilon and made a name in football—being selected "All Southern End"—Mr. Dow entered legal practice, later acquired three widely-separated tracts of 2560 acres each of oil producing property, and became identified with the public utility business in New Mexico and western Texas. He's now a director of the Southwestern Public Service Co., and, besides being N.C.P.R.A. Chairman, is New Mexico's representative on the Interstate Oil Compact Commission.

Mr. Dow has long been interested in oil conservation. His own state, New Mexico, was the first to enact a complete oil conservation law, and Mr. Dow was out in front, working on the bill and getting it enacted in the legislature. He has written the "Legal History of Conservation of Oil and Gas in New Mexico" (Legal History of Conservation of Oil and Gas, a Symposium Section of Mineral Law, American Bar Assn.).

For recreation and relaxation, Mr. Dow takes his wife and three daughters to his ranch (*see p.* 48) in the Guadalupe Mountains in Carlsbad Caverns National Park, where he raises fine horses and white-faced cattle—100 miles from the nearest telephone.

NATIONAL PETROLEUM NEWS

VOLUME 34 WEDNESDAY, MAY 27, 1942 NUMBER 21

There'll be Tires, Don't Get Excited, Roosevelt Advises

NPN News Bureau

WASHINGTON — Synthetic tires will be developed before the present ones wear out, so there is no reason for getting overexcited, President Roosevelt told his press conference May 26.

While talking about tires for civilians, the President indicated that he had in mind "essential" civilians.

There had been wide expectations that President Roosevelt would today (May 26) announce the nationwide gasoline rationing program developed by Office of Defense Transportation.

However, the last day or two has seen a flood of protests from Congressmen and Senators, who feared rationing would bring about their defeat in the fall elections.

Reports are that President Roosevelt has directed government agencies to develop a program for 1000 wooden barges of 6000-gal. capacity each, but he did not say anything on this.

* * *

NATIONWIDE RATIONING OFF?

WASHINGTON—Following President Roosevelt's statement about the tire situation, WPB Chairman Nelson held a press conference and hinted that government's plan for rationing "passenger car transportation"—he wouldn't call it gasoline rationing—might not be ready by July 1.

* * *

'Gas' Rationing Called Off In Washington, Oregon

Gasoline rationing plans for Washington and Oregon were cancelled by Office of Price Administration on May 25 on the eve of registration for ration cards.

In addition, dealers in those 2 states will have their deliveries curtailed only 33 1/3% — the present reduction—instead of suffering a 50% decrease which was to go into effect June 1.

State Oil Jobber Groups Act To Halt Nationwide Rationing

NPN News Bureau

CLEVELAND—Several state oil jobber associations last week launched vigorous programs aimed at heading off nationwide gasoline rationing.

The jobbers weren't alone: in Texas, Gov. Coke Stevenson wired Texas Congressmen at Washington and Speaker Sam Rayburn declaring his opposition to any rationing in Texas; in Washington, virtually all oil state Congressmen and Senators raised voices in disapproval, some going straight to President Roosevelt. Several southwestern governors were reported preparing a united protest; the city of Detroit was reported ready to send a special delegation to the nation's capital, declaring rationing would tie up the city's defense plants. With many Congressmen and Senators up for re-election, the threat of nationwide rationing was a hot potato (*see p.* 7, 8).

Indiana Jobbers Act

Indiana Independent Petroleum Assn. stepped in with an urgent appeal to its membership. Said Secretary George Hofmayer in a special bulletin: "Certainly you are not going to take this thing laying down! Surely your business will not stand a reduction of 50% or more. Don't take the lines of least resistance. . . . Get in there and fight as you have never done before! Get on your toes and spread the facts to the public through every employe in your service."

Meeting in Indianapolis, I.I. P.A. fathered an 11-man committee composed of motor club, bakery, hotel, truck, restaurant and garage association representatives and the chamber of commerce. The aim: to get the facts on the gasoline supply and transportation situation in the Mid-West before the public and to solicit the backing of Indiana's Gov. Henry F. Schricker.

What's the Objective?

Said Secretary Hofmayer:

"According to press reports these . . . agencies (ODT, OPA) are right now . . . working up this nationwide rationing plan. Let's try to get at the exact objective of this. If it is, as reported, to conserve rubber what

(*Continued on page* 8)

OPA Set to Dictate Policy Of Oil's Wartime Operation

By Warren C. Platt, Editor

CLEVELAND—The government, mostly through OPA, is now preparing to operate this oil industry—operate it and not just "control" it or limit its prices.

The government is now hiring "marketing experts" who will "counsel" all marketers and dealers, majors and Independents, on how to "get along" in this war period of narrowing margins. These "counsellors" will tell the marketers what expenses to cut, how to manage their businesses. These "counsellors" will "help to bring about mergers" and, particularly, they will aid in bringing about hard price competition that will reduce prices to the consumer and eliminate all "unsocial" oil enterprises.

These "market experts" are being paid $5000 and $6000 a year and if you think you qualify and want a job, wire or write Personnel Director Petroleum Section, Fuel Division, Office of Price Administration, Temporary Bldg. D, 4th and Independence Ave., Washington, D. C.

Some Territory Still Open

Some territories have been filled, but no announcement has been made although a newly-appointed Market Expert and Counsellor for Virginia told the Virginia Petroleum Jobbers Assn. last week that he was there to help the boys in meeting today's conditions and invited them to bring their marketing problems to him.

"Merge, get your costs in line or get out", advised Robert Collacott of the refined products unit of OPA at the Boston meeting this week of the Independent Oil Men's Assn. of New England.

He also said, in brief, that the oil man should approach his job these war days as if he were a "czar of operations" whose task is to "save society by streamlining his costs", and also he should look upon himself as the "purchasing agent for his community"; that this "czar" might "play a game" of trying to meet a cost level 10% below the lowest cost of any one in the territory.

Are You 'Socially Desirable'?

If his business is "socially desirable" and he can't keep alive by lowering costs, Mr. Collacott said, a jobber might be able to get a better price from his refiner or a subsidy from the government. However, he observed, no one man constituted "an industry" that was needed by a community.

Then, at a meeting May 20 in Columbus of the Ohio Petroleum Marketers Assn., Orville D. Judd, Cleveland, senior specialist, regional office, OPA, reading a prepared address from which he said he was not permitted to deviate, said this of OPA price policy: "We are not granting price increases except in cases of the greatest urgency and then only after it has been clearly shown that costs have been pared to the bone."

In a recent press conference, Price Administrator Henderson, in reply to the suggestive question that he was planning the "third largest" government agency—and that might mean 300,000 people—said cautiously, as if studying the accuracy of the figure, "Yes, and it may be more than that."

This force would not all be in oil, but the figure gives some idea of the stupendous plans of Henderson in his price ceiling operations on all businesses.

Spokesmen for OPA have denied that Henderson holds any intent of social reform of business and this country through his OPA, but they admit that such aims are held by many of the "younger crowd" in the organization.

OPA now has 8 regional offices each with an "oil specialist" in charge for the oil industry, to say nothing of the experts

for other industries. In addition is a district oil specialist at Los Angeles. However, men are now being sought to provide an "oil specialist" and "marketing expert" with suitable assistants depending on the size of the oil industry in each state, for each state.

The power and authority of these "specialists" in getting their "suggestions" and "advice" adopted by marketing companies, big and little, so far as is now known, lies in the fact that OPA fixes the price ceiling. Such ceilings today are fast getting unprofitable as wages and other costs rise and volume of sales shrinks due to 50% rationing on the East Coast, the threatened rationing over the rest of the country and the rubber shortage.

OPA is going to hold to present price levels or less. As per Price Administrator Henderson April 28th: "It is not necessary to maintain a margin or even a profit ratio that prevailed on a larger volume of business previously. The first question is how much of the cost increase can be absorbed by the retailer, then decide how much can be rolled back to the consumer." In other statements, OPAers have said "manufacturer" instead of "consumer".

'Take Our Suggestion—or Else'

It would seem but fundamental that an oil man is not going to get consideration for any "relief" at least unless he has carried out the "streamlining" advice as it may have been interpreted to him by a "market counsellor" or "price specialist". OPA's obvious position toward the oil man will be simply: "If you cannot follow our suggestions for getting your costs down you are not entitled to any consideration for relief."

The "suggestions" will necessarily be those of the "market counsellor" or his assistant in the territory. As the "market counsellor" will undoubtedly have full access, or at least ask for it, to the oil man's detailed books, the "counsellor's" suggestions will be guided by what is found in the books, as well as by what is observed of the company's operations. It is therefore easily conceivable that the "suggestions" would concern number of employes, amounts paid them, amount and use of equipment and all else that pertains to the operating and maintenance cost of the business.

With an oil man losing money, as is certainly going to be the case with any 50% rationing, he will have to decide to what extent he wants to take the "counsellor's" advice and gain standing for a plea to get a higher price approved, or to get the counsellor's aid to cause the supplying refiner to back down a half cent or so, or to get a "government subsidy". Or else will he fight it out alone, if he can?

Taking Suggestions Made Easy

A hard-pressed oil man is likely to accept the "suggestions" but at the same time try to get an understanding that if they don't work then he will get actual dollars and cents "relief" either in the government taking it out of the refiner or in giving him a subsidy.

The hope or "promise" of "relief" will obviously give the "suggestions" of a "market counsellor" the practical effect of an order by the government. Whether OPA will consider that an oil man who accepts in good faith and puts into full effect all "suggestions" of its official representative has thus put the government under obligation either legally or morally to give him relief if the "suggestions" fail to save the business or produce profits, is probably another question. OPA has not indicated yet if it will make such a contract.

These oil price "counsellors" and "specialists" will be more than inspectors to see that no one charges more than the official price. They are to "help" a man save a "socially desirable" business by advice. And these official representatives will be the men who will have to recommend any "relief" or higher price. That is different from being a checker of sales prices who would report an offender to the district attorney.

The necessary result of any such relationship with these "counsellors" who will hold the life or death of a business in their hands, will be that they will be the actual operators of any business that is not able to get along on the decreased gallonage and under advancing wages and other costs.

Then one can well imagine how some types of individuals as "counsellors" will trot out all their pet ideas of oil operation, ideas that may have been turned down for cause in other jobs with oil companies, but now they will have to be adopted by the unfortunate victim, if he is to expect any "help" from OPA.

To what extent a counsellor may sincerely and intelligently be helpful, may investigate a man's business and, after making suggestions, be convinced that that man needs higher prices or other "relief",—that will depend upon the "counsellor" and upon his instructions and the overall policy of OPA. But even if every counsellor is thus intelligently sympathetic, what leeway has he to really help a business if the over-all policy of OPA toward oil is to force companies to be "community purchasing agents", to "play games of operating at 10% below the lowest cost" and to eliminate the companies that are not "socially desirable"?

And how many "counsellors", no matter how able and honest they are, will risk their good jobs these days fighting for or even making recommendations on behalf of oil companies which recommendations are contrary to the fixed policy of the government to make them live on less money and eliminate the "socially" undesirables?

By-Pass OPC Committees?

This OPA oil "counselling" plan will produce an organization of probably from 250 to 500 or more men. They will work out of an office in each state. The assistants will be calling at local oil offices all the time.

The net result of this large field organization undoubtedly would be to carry out OPA's well known antipathy to OPC, Co-ordinator Ickes, and make the Ickes' set-up of advisory committees useless so far as matters pertaining to prices and rationing and supply are concerned and those matters will be the chief problems before all oil marketers. There won't be any more hardly.

This OPA field force would also tend to cut by state and other oil associations for which OPA also has failed to show much enthusiasm. Official Washington believes ardently in organization for the working man but it has many times not only indicated but frankly said it did not want organization among business men, not even small business men. OPA is a strong, coherent organization but it wants to operate on the oil man as an individual and not through an OPC advisory committee or an association.

Rearrange Your Operations to Survive: That's OPA Advice to Eastern Jobbers

By NPN Staff Writer

BOSTON—Only practical remedy for marketers' troubles today, due to increased costs and lowered volume, is to rearrange operations "so that you can live on the margins you now have."

Such was the advice to Independent Oil Men's Assn. of New England by Robert Collacott, Washington, head of the refined products division in Office of Price Administration's oil price unit.

Two other methods of relief for marketers were mentioned by Mr. Collacott—rolling back part of the added costs to the supplier and government compensation to offset wartime costs. But both of these would probably entail a showing by the individual marketer that he had "stripped down" his business by every economy possible. And the government-aid method must be considered only as a last resort, he added.

Sees 'Inflation' Danger

Mr. Collacott prefaced these specific remarks about oil marketing with a discussion of dangers of wartime inflation and its causes.

Needs of an individual marketer, said Mr. Collacott, must be considered today in light of present circumstances. And if he requires more funds than he can get from his best obtainable volume of business, "some estimate of the value of his enterprise to the community is of primary importance", he added.

"The value of an industry and the value of one member of an industry are by no means synonymous," said Mr. Collacott. "If the answer appears to be the securing of more volume per company, then we must work toward that. If this can only be secured by a lessened number of competitors, then we must work toward that. This, of course, can be accomplished by the voluntary withdrawal of some or by mergers or by a dog-eat-dog fight for survival."

Mr. Collacott pointed out that he had been employed in the oil industry for 22 years, and was sympathetic with marketers' problems. He said he had been a close student of marketing costs and from his experience offered suggestions for drastic paring of expenses.

"I recommend that you attempt to dig your way out of your apparent economic trap before looking for rescue parties from any source", he advised the New England oil men. "You cannot afford to shrink from any reform no matter how drastic."

Mr. Collacott then suggested what a marketer might do if he were appointed a "hypothetical czar" of oil marketing opera-

(*Continued on page* 13)

NPN Reports from WASHINGTON

News for ALL branches of the Oil Industry

WASHINGTON BUREAU, 803-805 National Press Bldg. ● Telephone National 3477 ● STAFF: A. M. Petty, Warren W. Burns, O. H. Knight, James M. Collins

Truman Group Makes Report on Rubber Supply; Blames Government for Lack of Preparedness

WASHINGTON—Five drastic measures, including nationwide gasoline rationing, are under consideration as means of saving rubber, Truman committee said in its report on its rubber investigation, raising the possibility that there may be a shortage of rubber for military use unless the Army and Navy prune their estimated requirements.

Committee said there would be no rubber available to individuals "for private, as distinct from defense, uses for the next 3 years". The report said that the absence of synthetic rubber production now—2 years after the fall of France—is "inescapable evidence" of failure on the part of government officials "to provide in time for one of the most fundamental needs of this country."

Rubber Saving Program

Truman committee (Special Committee Investigating the National Defense Program) made its report to the Senate on May 26, saying it "understands" the following rubber-savings program is under consideration:

1—A federal speed law regulating maximum speed at 40 m.p.h. The President has requested the states to enact 40-miles an hour speed laws, but most of these laws could not be enacted until some time next year, and this would be too late.

2—A law prohibiting the purchase or holding of any tires over 5 per car.

3—Over-all gasoline rationing to minimize "nonessential" driving.

4—Organization of compulsory pick-up systems to obtain maximum utilization of privately-owned vehicles.

5—Power to requisition any transportation vehicle, including private automobiles, where it appears that such vehicle is necessary for the purpose of transporting either goods or passengers essential to the war program. Requisitioning of tires is not a present necessity although such a measure may become essential before long if shortages develop in specific areas where defense workers must drive comparatively long distances.

'Gas' Rationing Cited

The public has been distracted from tire conservation by the controversy over gasoline rationing, but "the rubber situation is such that dispute about gasoline should be all but academic", and national gasoline rationing "on a sensible basis must be given serious consideration", the committee said.

Military requirements, the committee said, are the chief concern today of the problem which will allow no rubber for "non-essential" use, but the armed forces apparently have been content to reduce civilian use while not limiting their own. Germany, according to the report, uses less than 200,000 tons of rubber for the army annually and the British use a lot less than the U. S. Army seeks.

"The only issue," the committee said, "is whether by failure to face now the fact that rubber may not be available at all in anything like the quantity demanded if the synthetic rubber is not obtained on schedule, the Army and Navy may find themselves without rubber at some future time."

Wants Central Agency

Declaring it had to go to the War Production Board, Reconstruction Finance Corp., Office of Petroleum Co-ordinator, Office of Defense Transportation, Office of Price Administration, Board of Economic Warfare and Department of Agriculture for information on rubber, the committee recommended that some centralized agency be empowered to direct the rubber program, subject only to the authority of WPB Chairman Nelson.

Report said Mr. Nelson appointed Arthur B. Newhall as Rubber Co-ordinator after the committee pointed out this situation, but there "has been considerable opinion from private and official sources that the organization set up by Mr. Nelson has not as yet functioned as the strong centralized set-up which the committee had contemplated".

When France fell in 1940, report said, Army and Navy Munitions Board advised the National Defense Advisory Council that about 15% of our annual consumption would need to be supplied by synthetic rubber if the supply of crude were shut off during an emergency.

Sees Government Failure

"The fact that today, 2 years after the fall of France, not one of those plants is in operation, is inescapable evidence not only

Requisitioning & Rationing

Requisitioning of private automobiles to assure transportation for war workers and nationwide gasoline rationing as a rubber-conservation measure may be necessary, Rubber Co-ordinator Arthur B. Newhall (left) and WPB Chairman Nelson said at joint press conference May 22

of the admittedly difficult technical problems, but also of failure on the part of the officials in government to provide in time for one of the most fundamental needs of this country."

At the end of 1941, the RFC stockpile was 150,000 tons short of 430,000-ton goal, the committee continued, because the International Rubber Regulations Committee did not relax its quota restrictions soon enough although this was handled "expeditiously and ably" by RFC; full advantage was not taken of shipping facilities; and positive action was not taken to hold down consumption which soared to new highs during 1941.

RFC's ceiling on the price it would pay for natural rubber caused this country to lose "a certain amount of rubber to other nations, particularly to Japan, which was able to purchase some rubber for as little as one-sixteenth of a cent above the United States top price".

'Citizens Should Know'

Believing that every citizen should know where he stands with respect to scarce materials, the committee's purpose "has been primarily fact-finding, not fault finding", the report said.

The rubber report was based not only on a number of public hearings, but also upon numerous executive sessions.

Government-sponsored program to replenish our lost rubber resources will provide only enough rubber for war needs so long as U. S. continues to schedule military use "so many times" greater than the amounts used by Germany, report said.

"There is no assurance yet," the committee declared, "that the program now being pursued is the best program, nor is there even complete assurance that it is workable."

U. S. 'Chief Rubber Source'

U. S. exercised more foresight than its Allies in laying in a stockpile with the result that we are now the chief rubber source for the United Nations, according to the report. Even after Dunkirk, the committee charged, British and Dutch interests were reluctant to increase I.R.R.C. rubber quotas and it was not until 1941 that 100% of production, authorized in November, 1940, was reached due to a lag between authorization and start of actual shipments.

After Pearl Harbor, it is believed that no rubber was left on Far Eastern docks since the Maritime Commission used all available shipping space for rubber, the report remarked.

Unless tires on the road are conserved, they may not be available next year or the following year, the committee said, warning against elimination of the "substantial probability" that we may need those tires even though there is no certainty that we will.

'Didn't Face Problem'

"To date," the report asserted, "nobody has squarely faced this problem. If we are to have rubber in sufficient quantities to supply our normal needs, there is no justification for depriving the American public of what has become one of the mainstays of its way of life; but so long as the rubber on the road remains the only certain source of supply for transportation in 1944, we must conserve it. There appears to be no problem whatsoever as to policy. The only question is one of fact, and this question could be solved only by a clear indication of the success of the synthetic rubber program. No such indication is available today."

The committee concluded that it will be several years before projects producing guayule in the Southwest and crude rubber in Latin America will be able to provide any substantial amount of rubber.

Because a number of people have brought synthetic rubber processes to the committee, the report suggested that some agency should be designated, and fully publicized, to investigate all claims.

On the subject of scrap and reclaimed rubber, the committee said America has a vast reserve — with estimates, on which there is no unanimity, ranging from 500,000 to 10,000,000 tons—but no comprehensive plan has been outlined for tapping it quickly.

Jersey–I. G. Deals 'Retarded' Buna S, Senate Group Says

WASHINGTON — Development of Buna S synthetic rubber in this country was "seriously retarded" by the agreement between the German I. G. Farbenindustrie and Standard Oil Co. of New Jersey, but there is "no question of moral turpitude or of subjective unpatriotic motive on the part of Standard or of any of its officials", Truman committee said in its May 26 report to the Senate on its rubber investigation.

The story of Standard and I. G. Farben was "one of the most dramatic" the committee ever heard, the report said.

Committee said Jersey Standard appears willing to consider all agreements with I. G. abrogated by the consent decree, regardless of agreement with the German company to maintain spirit of their relations regardless of any governmental action.

'Withholding' Alleged

Referring to Standard's alleged refusal to show Butyl processes to a Navy representative, the committee said the company put itself in the position of furnishing information to I. G. and thus to the German government while "withholding the same information from the United States".

Citing Standard's claim that it received the hydrogenation process which underlaid development of 100 octane and toluol from the I. G. agreement, the committee said the company obtained this process in an earlier agreement and developed 100-octane and toluol itself, which were passed on to I. G. But the committee said it was "in no position to determine the extent to which Germany has benefited or will benefit from such discoveries".

D.J. Says Jersey 'Withheld' Costs On Butyl Rubber

NPN News Bureau

WASHINGTON—Essence of the charges contained in several pounds of documents on synthetic rubber, presented before the Senate Patent Committee here this past week, was that New Jersey Standard assertedly withheld from the government information which showed that its Butyl synthetic rubber process could produce a useable rubber for about one-third less cost than natural rubber.

Jersey was also again charged with "highly irregular" business dealings with the German chemical trust, I. G. Farbenindustrie.

These and other charges were made by Robert M. Hunter, special assistant to the Attorney General. Mr. Hunter presented excerpts from letters which he claimed substantiated his charges. But contrary to the procedure of Assistant Attorney General Arnold, who made substantially the same charges against Jersey when he appeared before the Senate's Truman Committee a few weeks ago, Mr. Hunter presented full texts of various letters.

'Kept False Impression'

While withholding information on its Butyl process, Mr. Hunter asserted that Jersey sought government financing for development of Buna rubber. Jersey and various rubber companies were to participate in this government-financed program, Mr. Hunter said.

Charging that "Standard could not have made its campaign for government financing, subsidy and pressure upon the rubber companies if it had not kept alive the false impression that synthetic rubber could not be made and sold at prevailing natural rubber prices, 20c per lb. then, 22.5c per lb. subsequently," Mr. Hunter presented the following table, which was said to represent production costs of Buna S and Butyl in plants of 300-ton daily capacity (or about 109,000 tons yearly):

	Buna S	Butyl
Investment	$49,600,000	$23,800,000
Production costs	14.4c per lb.	6.6c per lb.
15% return on the investment would add.	3.2c per lb.	1.63c per lb.
Total cost including 15% return	17.6c per lb.	8.23c per lb.

"The withholding of this information from the government representatives is one of the most unfortunate factors in the entire synthetic rubber story", Mr. Hunter charged.

According to Mr. Hunter's testimony, the Patents Committee is to be presented with the Justice Department's "suggestions for action".

However, these suggestions were not presented at conclusions of Mr. Hunter's testimony May 22 but it is thought that he may present them later.

M-68, M-68-c Boundaries Set by WPB Amendment

M-68 and M-68-c apply only to U. S., its territories and possessions and Canada.

This provision was specifically inserted in the orders on May 21 by Amendment No. 1 to M-68-c as amended, and Amendment No. 4 to M-68.

Washington Directory

NPN's Washington Directory of Oil Agency Headquarters is unchanged and does not appear in this issue. *See NPN May 20, p. 35.*

Senate Committee May Probe Status Of Small Refiners

NPN News Bureau

WASHINGTON—Senate small business committee is considering an investigation of problems confronting smaller refiners and distributors in the oil industry.

Sen. James E. Murray, Mont., chairman of the committee, made this disclosure in a recent letter to J. A. Novelli, general manager of Elm Oil Co., Long Beach, Calif.

Sen. Murray's letter was in reply to one from Novelli, who submitted "several perplexities" to the committee, and also served as a reply to A. M. Lockhart, president of Envoy Petroleum Co., Long Beach (*NPN May 20, p. 16*).

It was disclosed that several jobbers also have complained to the committee, but their names and complaints were not immediately available.

Suggests Hearings

"The large number of complaints that have come to us in recent weeks," Sen. Murray wrote, "from all over the country from the smaller refiners and distributors of petroleum products evidences a serious situation for the smaller businesses in the petroleum industry.

"I believe the situation is one which warrants a thorough study by our committee and I am contemplating suggesting that our committee hold a series of hearings on these problems."

P.I.W.C. Names Committee On Cost-Price Adjustments

NPN News Bureau

WASHINGTON — When the matter of war-increased costs arises at the next monthly meeting (June 2) of the Petroleum Industry War Council, members will be able to turn to the newly-created Cost and Price Adjustment Committee and say, in effect, "What about it?"

This question, in all likelihood, will be addressed to Dr. John D. Gill, committee chairman, who is reported to be resigning his position as vice-president of Atlantic Refining to devote full time to his new job. Dr. Gill has been associated with the oil industry for more than 30 years.

Other committee members are the 5 district general chairmen:

John A. Brown, New York, president of Socony-Vacuum, District 1; Frank Phillips, Bartlesville, Okla., board chairman of Phillips Petroleum, District 2; Charles F. Roeser, Fort Worth, Roeser and Pendleton, District 3; W. H. Ferguson, Denver, executive vice-president of Continental, District 4; and W. F. Humphrey, San Francisco, president of Tide Water, District 5.

Address of cost committee's Philadelphia headquarters is 260 South Broad St., NPN was told.

Handling all additional wartime costs of the industry, this committee will be national in scope, P.I.W.C.'s Chairman William R. Boyd, Jr., explains, adding that "the council's action was prompted by the necessity for more adequate presentation of facts before the Office of Price Administration".

Under the direction of Dr. Gill, the job of compiling many of these facts will rest with a small permanent staff of full-time salaried economists and statisticians, P.I.W.C. explains.

To facilitate this work, District Cost Adjustment Compensation Presentation Committees are to be appointed "when and as required."

Petroleum Co-ordinator Ickes is to be asked to obtain "sufficient legal clearance."

Dr. John D. Gill . . . heads cost-price adjustment committee

Davies Asks Help For Little Fellow

WASHINGTON — Some economic provision must be made to keep smaller units of the oil industry solvent during the emergency or else the small operator must consolidate with the larger companies which would be a tendency toward monopoly, Deputy Co-ordinator Davies told Cole oil investigating subcommittee on May 26.

Pointing out that the industry's sales volume is declining and can not be met by increases in prices which are set by law, he said some substitute must be found for price to maintain economic equilibrium. However, he had no special proposal to advance.

Hits 'Below-Cost' Prices

Chairman Lea of House interstate commerce committee, conducting hearing in absence of Rep. Cole, Md., said it is not safe for the government to expect industry to furnish critical materials at below-cost prices, and declared some remedy must be found, because the "situation calls for immediate action."

Mr. Davies did not see how a good many eastern service stations could stay in business with their volume cut in half. Further, he said there is no prospect of a material increase in East Coast stocks. He did not believe gasoline curtailment in the Mid-west would have a beneficial effect upon the eastern situation.

Gasoline Ration 'Violator' Restrained by Court

On May 21, Office of Price Administration reported its first action against violations of the gasoline rationing regulations in issuing the following press release:

"A temporary restraining order enjoining C. P. Stevenson, operator of the Whitehall Service Company of Anderson, South Carolina, from selling gasoline without calling for presentation of a gasoline rationing card was secured today by the Office of Price Administration.

"It is the first action against violators of the gasoline rationing regulations. . . .

"The restraining order was secured by Walton Nall, Regional attorney for the Atlanta area and was signed by Federal Judge H. H. Watkins of the western district court of South Carolina."

30% of Motorists in East Get 'A' Type Cards

WASHINGTON—Preliminary returns indicate, according to Office of Price Administration, that about 30% of the gasoline ration cards issued on the East Coast were of the basic "A" type.

On May 21, OPA said reports had been received on 1,486,806 car owners showing 30.8% received "A" cards; 10.8% received "B-1" cards; 11.3% received "B-2" cards; 37.5% received "B-3" cards; and 9.6% received "X" cards.

Although the number of "A" cards issued was a little below OPA's estimate that one-third of the cards issued would be of this type, OPA said the figures "do not take into account the large number of high allowance cards now being returned."

Says Bureaucrats Want Countrywide Rationing of 'Gas'

WASHINGTON — Typical of protests against nationwide gasoline rationing flooding Congress is following from H. A. Martin, Ottawa, Kans., to Sen. Capper of Kansas:

"This thing of depriving us of gasoline in this (Kansas) area, where supplies are abundant and burdensome, just to appease the selfish attitude of the East, is about the last straw, and plenty of hell is going to be raised if put into effect.

"The statement that rationing is to be used to conserve rubber is dishonest. The government already has access to all new tires, hence they could only be talking about the tires we now have on our private cars, and why should it be of any concern to them if a few people are foolish enough to wear out their tires in 6 months and then jack up the car for the duration? Most of us are conscious of the fact that we cannot replace present tires, hence gasoline rationing is already voluntarily being practiced as only necessary miles are being driven.

"The Senator from Colorado was right when he said that under excuse of the present emergency the people are being pushed around by a bunch of egotistical bureaucrats, anxious to test out their new powers . . .

Nationwide 'Gas' Rationing Hit by Several Congressmen

NPN News Bureau

WASHINGTON — Confusion over the "why" of the government's proposed nationwide gasoline rationing plans and a feeling that transportation and oil situations in various parts of the country are not being given careful enough attention, comprise many of the protests being voiced by the people, particularly those in oil states, to their legislators.

These legislators, reflecting public opinion, are in turn protesting to the highest government officials. At least one legislator, Sen. Lee, Oklahoma, has informed President Roosevelt of a proposed conference of the Messrs. Nelson, Henderson, Ickes and Eastman with governors and representatives from the oil-producing states, to talk over nationwide gasoline rationing before it goes into effect. Sen. Lee, himself proposed this conference and sent wires to the above 4 high government officials.

Moreover, President Roosevelt was told by Sen. Lee that "if after a discussion of both sides it is still deemed advisable to ration gasoline in oil-producing states, these representatives could go back and explain it to our people."

Michigan Protests

Sen. Brown, Michigan, in a letter to Price Administrator Henderson, protested gasoline rationing in the Mid-West, holding that "there should be ample publicity given as to the reasons for it. An indefinite, indistinct and uncertain reason is not enough," he says.

"Michigan is not convinced that gas rationing in the Middle West is either necessary or warranted at the present time," Sen. Vandenberg, Michigan, declares. There's too much confusion over nationwide gasoline rationing, Sen. Vandenburg holds, and pleads for "a re-examination of the subject."

Legislators Worried

Reports are that some Democratic Senators and Congressmen are so worried over public reaction against gasoline rationing in areas where there is ample transportation and no oil shortage that they fear it might result in their defeat in the fall elections. It is said that they have appealed to Democratic party leaders to head off the nationwide rationing plan.

Asked about these reports, one Democratic leader said that the party organization was not doing anything "officially" about gasoline rationing.

Meanwhile, the government's gasoline rationing machinery based on rubber conservation by all, grinds onward and the Office of Defense Transportation (which for all practical purposes is formulating policies on this matter) still believes—or did early this week—that no areas in the U. S., not even refining areas, should be exempt, according to well-informed sources here.

Favors 'Rationing' Refiners

Moreover, ODT is reported to favor "rationing" refiners in sofar as the amounts of gasoline they would be able to sell. Idea here is to prevent one refinery from selling more than another. This plan reportedly would be welcomed by other government agencies as a partial solution to some complaints from small refiners.

When ODT gets around to announcing its nationwide gasoline rationing plan, the announcement is expected to be made by a high government official, possibly President Roosevelt, who presumably will make it plain that conservation of rubber and not a shortage of oil is the reason the government is instituting gasoline rationing on a nationwide basis.

Number of miles to be allowed the so-called "non-essential" or "A" card drivers remains unsettled, but 2400 miles per year is the figure heard most often in Washington's oil circles.

But whatever the mileage per year, it's believed ODT will grant a basic allotment of gasoline or mileage to each private passenger car, then provide for supplementary allotments where need is shown.

Whether ODT will recognize that all "essential" mileage is not going to and from work, is something several industry sources hope for, for nothing could be learned in order to place odds on such a hope.

Setting a 40 or 50-mile speed limit may be part of the ration plan with ration certificates withdrawn when the speed limit is violated.

State Oil Jobber Groups Act To Halt Nationwide Rationing

(*Continued from page 3*)

about all the automobiles with rubber tires in dealers' hands that remain unsold—both new and used? Does anybody really think or believe that the citizens of the country are burning up rubber unnecessarily? If so, this is absolutely incorrect and sheer nonsense."

Earlier, Illinois Petroleum Marketers Assn., working through Gov. Dwight Green, had set up a petroleum transportation advisory committee to the Illinois State Council of Defense. A. H. Kreuder, Chicago, superintendent of motor transportation for Wilson & Co., was named chairman. Committee hoped to work out a transportation plan that would aid in avoiding gasoline rationing.

In a second move, I.P.M.A. wrote members urging opposition to rationing and answered the question "Is rationing of petroleum products in the Mid-West necessary" with a terse "Definitely no".

Claiming car and tire rationing have already cut Michigan's gallonage 18%, Paul R. Kempf, Ann Arbor, Mich. (Staebler-Kempf Oil Co.) wrote his Michigan Jobbers War Committee, composed of the board of directors of the Michigan Oil Men's Assn., that if rubber is the problem, then it should be solved by more strict curbs on tire and automobile sales, rather than gasoline rationing.

He said Washington officials should give consideration to the following:

1—Michigan truck transport facilities "are more than ample to take care of the needs of this state";

2—Crude oil is sufficient to supply state refineries;

3—Gasoline must be consumed to balance storage and make production of heavy fuels available for the East Coast and Canadian industries;

4—Michigan is completing one third of the defense contracts in the United States, "and, without gasoline, transportation of defense workers is in jeopardy".

Phillips Opposes Nationwide Plan For 'Gas' Ration

NPN News Bureau

CHICAGO — District 2 committee "definitely opposes the rationing of gasoline or any other petroleum products in the Middle West at this time," General Committee Chairman Frank Phillips said May 25 following a 2-day meeting of committee members here.

In his public statement, Mr. Phillips pointed out there was no shortage of petroleum products.

"It is the unanimous opinion of the committee," he said, "that the principal motivating reason on the part of the several government agencies is to conserve rubber now on civilian cars and trucks. If the use of rubber now on automotive equipment must be further conserved (and the public in the Middle West is doing a fine conservation job daily), why not label the action 'rubber rationing' and set up machinery through the several state governments to curtail car and truck mileage rather than through the curtailment of gasoline sales?"

Cites Advantages

Mr. Phillips said this would immediately bring to the public "a fuller realization of how serious the loss of our natural rubber supply sources in the Southwest Pacific really is and stimulate responsible government authority to launch immediately an adequate synthetic rubber production program."

Farmers of the Mid-West—which he called the "bread basket of the world"—must get an unrestricted supply of petroleum products to produce and market their products, Mr. Phillips said.

"It is our studied opinion that rail and bus facilities cannot handle the transport problem in the Middle West," he added.

Surveys made by the District 2 committee, Mr. Phillips asserted, "disclose the fact that adequate transportation facilities are available to transport gasoline and light petroleum products from refineries, water and pipeline terminals and to retail facilities in this area without the use of tank cars, and complete conversion of tank truck hauling has or will be fully accomplished almost immediately".

The EDITOR'S Page

Readers comments and opinions will be much appreciated by—WARREN C. PLATT, NPN's Editor and publisher, Penton Building, Cleveland, O.

Before the Price Gets Any Higher,

Get the FACTS From Navy's MANAGEMENT

IS THE good, whatever and wherever it may be, that may be coming from the decisions of the MANAGEMENT of the U. S. Navy NOT to give any protection, or to give too little protection, to this country's oil tankers, worth the price the country is now paying, and will soon have to pay in greater amounts, for its necessary petroleum products or the lack of such products?

That is the nub of this whole question of gasoline and oil "shortage" with its resultant rationing on the East Coast which is expected to spread to the entire country July 1.

This growing "shortage" is no accident, no unavoidable result of war, nor entirely beyond our control, unless the German Navy is so far superior to ours that by its own might and merit it can maintain a complete blockade of our whole Atlantic Coast while Japan, also by reason of greater prowess, keeps a blockade on the Pacific Coast sufficient to prevent oil shipments to the states of Oregon and Washington. This superiority of the enemies' navies we are loath to believe.

This "shortage" of petroleum is the result, if the above naval weakness is not true, of deliberate decisions made by the MANAGEMENT of the U. S. Navy to use its naval strength in other waters and for other purposes and to let this country's oil tankers take care of themselves against enemy submarines, or the decisions were to use a given number of naval vessels to protect these tankers and the number has turned out to be insufficient.

Perhaps the decisions of the MANAGEMENT of the Navy are wise. Perhaps they would be heartily concurred in by every citizen who is now contributing or is about to contribute such a great price for his petroleum or to go without it altogether. The reasons on which these decisions were based are obviously such as are usually hidden as "military secrets".

This is war and the country must expect to pay a high price for its security, but there comes a time when it may be well to inquire if the price is not TOO high? Or if the decisions which bring the high price are really justified? Or if the military objective could not be achieved without paying such a price?

The public is not qualified in military strategy and the problems of war cannot well be discussed with it. However, our military strategists are only human beings and are subject to the same frailties, the same possibility of error of judgment, as men in all other walks of life. Whoever constitutes at the present time the MANAGEMENT of the U. S. Navy are no more supermen than those who run our big corporations, than those who conduct the affairs of Congress and government agencies, and of some of these the Administration at Washington has been testifying rather loudly and vehemently of late as to their alleged errors of judgment in this war.

So just as the Administration at Washington has been overhauling the judgments of the human beings who have to do with the non-military affairs of this country and its war, it would seem the present high price that the public is being asked to pay for its petroleum, as well as other things, may well warrant the citizens to ask for an overhauling of the judgments of the MANAGEMENT of the Navy.

According to the outburst that is arising over the country and in Congress, the public is about ready to challenge the decisions of the Navy's MANAGEMENT which has brought about this present predicament. The public seems to think it may be paying an unnecessary price for whatever naval strategy the Navy's MANAGEMENT is undertaking.

The price that the public has paid so far and may pay in the future, for its petroleum products and for whatever strategy the Navy's MANAGEMENT has indulged in, can be briefed as follows,—

15 Prices America Pays

1—The loss by submarine of an undisclosed number of oil tankers that constitute a large part, undoubtedly, of the 221 cargo ships which the Administration has admitted have been sunk since the U. S. entered the war.

2—A seemingly increasing loss of tankers, and cargo ships, by submarines—a loss greater than new tankers are being built.

3—A diversion of oil tankers to Navy service in other parts which, with the losses todate, is expected to leave us without any tankers in Atlantic Coast service.

4—Considerable loss of life, largely by the terrible death by burning in the petroleum floating around the stricken tankers.

5—The burdening of the railroads with moving a tremendous and new volume of petroleum across the country, expected to reach 800,000 bbls. a day at a time when the railroads will be subjected to their greatest burden in history and at a time when they will have to ration their freight and passenger carrying capacity.

6—Pulling up old pipelines and relaying them along with much new pipe, all at great cost to the oil industry.

7—Pooling barges, taking them away from their regular service to supply the East Coast's deficiency.

8—Pooling trucks and requiring that all oil hauls of less than 100 miles be by trucks, thereby greatly accentuating the consumption of rubber in the tires of these vehicles.

Soaks Oil $20 Million per Month

9—Putting on the pocket books of the oil industry the great cost of all this more expensive means of transportation, a cost which, even with some price advances, is still estimated by government's own officials at more than $20,000,000 a month for the score or so of companies who are concerned with the long hauls to the East Coast.

10—Saddling on the oil industry, by reason of this high cost transportation and the "shortage" in supply, government fixed price "ceilings" and all the resultant government control of industry operations; a control that is increasing in size and mistakes at the expense of the industry every day. What shape the oil industry will be in when the war is over is hard to tell. Perhaps its million and more stockholders won't recognize it and perhaps they will cease to own or operate it.

11—Throwing every oil company, except those larger ones who can get large government orders direct, into heavy losses, by reason of the increase in costs, the great decrease in volume due to these Navy decisions, and the fixed and low ceilings on prices. How many will survive is a serious question. And the major companies, between having to finance most of this greatly increased transpor-

tation cost and also suffer heavy losses in their civilian business, too, are also faced with grave financial difficulties.

12—Depriving to a large extent the consumer, the car owner, of the means of transportation on which he has based his living, his home life, and mostly his job. Also depriving him of much of the heat with which he has kept his home livable. What putting the car owner in a street car, if any, or on his feet will mean in loss of time, income, business and in inconvenience is impossible to say.

Navy Decides That Car Owners Walk

13—Rather certainly, it would seem, these Navy decisions will deprive a few million car owners of their cars.

14—These decisions also promise to force home owners within walking distances of factories to take in roomers whether they want to or not.

15—These Navy MANAGEMENT decisions also threaten the production of war munitions, by possibly cutting off the supply of fuel oil, at all events they force many factories to convert to coal at higher cost.

These 15 items are a fair part of the PRICE which America is being called upon to pay for the decisions of Navy MANAGEMENT which have brought about this petroleum "shortage".

Maybe this is the price, or only part of it, that America must pay for its salvation. But also, maybe an overhauling of these Navy MANAGEMENT decisions will show that it is unnecessary to pay any such price.

The Petroleum Industry War Council has some information from the shipping departments of its own members, to pass in some degree upon the merit of the decisions of the Navy MANAGEMENT. The Council should be able to get at least some additional information.

Congress also can get information that prompted the Navy to make these decisions.

Before this price gets any bigger by the application of rationing to the entire country, it would seem only reasonable for these or any other authorities, to review the facts and pass on the reasonableness of these decisions of Navy's MANAGEMENT.

Practically all of this great price would be saved the country if the American Navy did, or was allowed to do, even a fair job of protecting our own coast against what seems to be pretty much a 100% German blockade. At least we believe that is the faith of the average American in the fighting part of his Navy.

Reese Taylor Joins WPB As Iron, Steel Chief

Reese Taylor

NPN News Bureau

LOS ANGELES—Services of Reese H. Taylor, president of Union Oil Co. of California, are today "on loan" to the federal government for an indefinite period.

At the request of Chairman Donald Nelson, Mr. Taylor will become chief of the War Production Board's division of iron and steel. Mr. Taylor is familiar with the steel industry, having been vice-president of Consolidated Steel Corp. from 1933 to 1938, when he resigned to take the Union Oil post.

During Mr. Taylor's absence W. L. Stewart will take over his duties in the position of executive vice-president. Mr. Taylor will remain as president of the company, although he will not be actively engaged in the business.

N.P.A. Sets Meeting Date

Annual meeting of the National Petroleum Assn. is scheduled for Sept. 16, 17 and 18 at Hotel Traymore, Atlantic City.

1942 Gasoline Sales Increase in Canada

Special to NPN

TORONTO—During first quarter of 1942 in Ontario, Canada, 82,249,397 gal. of gasoline were sold—an increase of 10,527,222 gal. over same period in 1941. These figures include purchases for the armed forces and the Dominion government. Civilian consumption increased 7%.

Figures compiled on basis of tax returns for the first four months of 1942 in Manitoba (gasoline rationing started April 1 in Canada) show gasoline sales in this area were 11,955,819 gal. as compared with 8,853,108 gal. in the same 1941 period, and these figures do not include government purchases. Civilian purchases show an increase of about 22%.

Oil Highlights From Canada

By NPN Correspondent

• Canadian oil industry may be face to face soon with a stop-order on deliveries of fuel oil and natural gas to all heating plants. Such was the substance of a prediction in the House of Commons by C. D. Howe, Minister of Munitions and Supply, when he said that all heating in Canada with fuel oil or natural gas will be banned except where conversion to coal cannot be accomplished.

• U. S. business men entering Canada on business must abide by tourist rule which allows a maximum of 20 gal. per year. Tourists are not allowed to bring extra gasoline with them in cans or auxiliary tanks. All gasoline must be carried in the regular automobile tank.

• All petroleum products, with the exception of gasoline, valued at less than $25, can be imported without a permit. The regular duty, however, must be paid at specified rate.

March 'Gas' Demand Up 6%, Bureau Says

WASHINGTON — Total U. S. motor fuel demand during March reached 53,500,000 bbls. —6% above a year ago—Bureau of Mines reports. Demand in District 1 declined, but was more than offset by demand in areas of great military activity.

Finished and unfinished gasoline stocks in March, Bureau said, dipped 1,500,000 bbls. below February. They usually rise in March.

Crude oil production declined during March, the daily average output being 3,692,700 bbls., compared with 4,070,000 bbls. in February, Bureau reports.

March's daily average crude runs to stills, Bureau said, compared with February, and March, 1941, were: 3,567,000 bbls., 3,778,000 bbls., and 3,583,000 bbls. respectively. Gasoline yield continued its downward trend (from 42.8% in February, to 41.8% in March), but residual yield, Bureau said, did not benefit, decreasing 0.04%.

Bureau estimated the distillate demand probably was less than a year ago, due to mild weather, but residual demand continued to run strongly ahead of last year.

Socony's Charles Smith, 57, Dies at Detroit

Charles S. Smith

Funeral services were held in Cleveland May 23 for Charles S. Smith, 57, general sales manager of Socony-Vacuum's White Star-Ohio Division, who died at his home in Detroit May 20 following a 4-month illness caused by streptococcic infection which settled in his heart.

Before joining Socony in 1940, Mr. Smith was vice-president and a director of National Refining Co.

He had been with National since 1905, when he joined the company as an office boy after graduation from Cleveland's East High School. In only three years he was made a salesman and in 1911 became manager of National's bulk plant in Columbus, Ohio. Returning to Cleveland in 1915, he became manager of the Ohio division and five years later was made secretary of the company.

Mr. Smith leaves his wife, Martha Maloney Smith, and a son and two daughters.

Good News FROM AUSTRALIA!

FIGHTING and bombing planes in constantly increasing numbers are arriving at American bases "Down Under." And products of James Good, Inc., of Philadelphia, Pa., in constantly increasing quantities are being supplied to keep them fighting!

"Good" Castor Oil for aircraft engine lubrication, "Good" Petrolatum for light lubrication and rust prevention, and "Good" Carbon Tetrachloride for fire extinguishers . . . are all being shipped in Crown Containers made to meet Army, Navy and Marine Corps specifications.

Many manufacturers in addition to James Good, Inc., have been gratified to learn that Crown containers meet rigid Government specifications without alteration.

CROWN CAN COMPANY, PHILADELPHIA, PA., *Division of Crown Cork and Seal Company.* Baltimore • St. Louis • Houston • Madison • Orlando • Fort Wayne • New York • Nebraska City

INDEPENDENT AND HELPFUL CROWN CAN

Quotas Hiked in Some Areas, Frey Tells Virginia Oil Men

By NPN Staff Writer

RICHMOND, VA. — Larger quotas are being granted, under Order L-70, to service stations in some areas where war activities have abnormally increased demand, according to Dr. John W. Frey, Office of Petroleum Co-ordinator's marketing director.

Dr. Frey revealed this step in answering questions from the floor at Virginia Oil Men's Assn. convention here May 22.

He was asked what OPC was going to do in areas where Army camp construction and other war projects had brought in thousands of workers, most of whom were dependent on private automobiles to get to and from their jobs.

Replying, Dr. Frey told how OPC was sending out a "directive" which would increase the gallonage quotas of 39 stations in a Virginia county (which he did not name).

Deals With Suppliers

Similar action, he said, is to be taken in the New Bern, N. C., area, and in the vicinity of Bremerton, Wash., and Medford, Ore., where war activities have greatly increased demand for motor fuel.

Dr. Frey indicated that OPC was handling matters like this by dealing directly with the supplying companies only.

One marketer wanted to know how the individual stations would be informed of their increased quotas in these areas.

"We make a request direct to the major companies marketing in the area," Dr. Frey said. "If you are a distributor of a major company notice of increased quotas will be coming through your supplier."

L-70 to be Continued?

When coupon gasoline rationing comes July 1 (probably for the entire U. S.), will Order L-70 limiting deliveries to service stations be continued? asked a Virginia marketer.

Dr. Frey said that in some quarters of Washington it was thought that the rationing should not include an L-70 type of order.

The OPC marketing director, however, said that it was his personal opinion that coupons —and allotment of gallonage on basis of coupons taken in— would bring about many maladjustments all the way back to the refinery, without some sort of L-70 order.

OPC is working on the problem of reallotting quotas of stations which close.

Suppliers, Dr. Frey emphasized, have no authority to reapportion quotas among their outlets, nor can an operator of several stations switch quotas from one station to another.

Incoming supplier must follow quota established for a station by the outgoing supplier, said Dr. Frey. So, if a station operator uses up its quota before the month's end, he cannot get any more gasoline that month even though he takes on a new supplier.

'Leon's Not a Sadist'

In his formal talk to the V.O.M.A., Dr. Frey took occasion to "spike a few rumors".

One such "rumor", he said, was that nationwide gasoline rationing would be imposed as a means of awakening the people to the hard facts of war.

"That's not true," said Dr. Frey. "I have known Leon Henderson for many years. And Leon is not a sadist who is trying to inflict trouble and inconvenience on people. Nationwide rationing, if it comes, will be undertaken because the Administration believes that facts of the rubber situation require it. It will not be a morale factor."

70 in OPC Marketing Unit

There are 70 people working in Dr. Frey's marketing division, not counting those in the district offices, he revealed. And every person among them—except the stenographers—is a practical oil man, he added.

"We have no academic oil men—everyone of them has been associated with the oil business," he said.

"But the manpower situation is becoming a problem," he continued. "When we get hard-pressed for men, we will go to the New Jersey Standard, the Gulf, Atlantic or the others and 'borrow' men—but never two men from the same company.

"This helps to keep us current on what's going on in the industry, plus the letters you write," he said.

Dr. Frey started his talk with the statement:

"Only thing to be glad about in the petroleum industry is that it isn't any worse."

"If we were able to decide what was the best method of producing synthetic rubber," he said, "it would still be many months before we could produce it in quantities.

"There is no immediate relief in sight—even if the big pipeline from Texas to New York were approved."

H. I. Bobbitt, Richmond office, Federal Bureau of Investigation, told the Virginia oil men of devices that might be used by saboteurs to damage their plants. He warned the oil men to be alert to attempts to plant delayed-ignition incendiary devices and bombs on their properties. He urged that they call in local authorities if and when a bomb were discovered and not to handle it themselves.

New and Old Prexys Meet

Dr. John W. Frey (center), marketing director of Office of Petroleum Co-ordinator, poses with John O. Little (left), retiring president of Virginia Oil Men's Assn., and Curtis Davis, new president elected at V.O.M.A. Convention May 21-22

Ohioans Hear OPC, OPA Men At 1-Day 'Town Hall' Meeting

By NPN Staff Writer

COLUMBUS, Ohio—Over 250 Ohio oil marketers who ignored heavy rain in meeting in Columbus May 20 to hear Office of Petroleum Co-ordinator and Office of Price Administration officials discuss wartime marketing problems were told by Dr. John W. Frey, OPC marketing director, that the industry could expect to receive less and less material as the war progresses.

One of the critical problems now, Dr. Frey said, is that of metal containers and he urged increased "velocity" of steel drum and other metal container movements. He said utmost use must be made of all existing equipment and explained, in answering questions regarding Conservation Order M-68-c, that this order is based solely on the conservation of critical materials and that a broad interpretation of the restrictions it imposes can be made by any oil man if he asks himself: "Will this mean greater use of metals?"

Asked if rationing might be preceded by a limitation or delivery curtailment order, Dr. Frey said this was possible, since it was one means of assuring each station its proportionate share of supplies. He said it *might* also operate concurrently with 7-to-7 station closing.

Pointing out that many stations are being turned back or permanently or temporarily closed, and citing specific example of Seattle where he said 100 stations were closed when he recently visited the state of Washington, Dr. Frey said OPC is now studying what to do with quotas granted to closed stations.

'Too Legalistic'

The OPC marketing director said the only difference between OPC recommendations and WPB or OPA orders is that the latter carry penalties. His remark came in answer to a point-blank question. He said some people in the industry are "too legalis-

tic" and are using legal technicalities as "excuses".

Other speakers at the O.P.M.A. one-day "town hall" meeting were George A. Wilson, assistant to Assistant Deputy Petroleum Co-ordinator Robert E. Allen; F. R. McLean, Detroit, safety manager for Socony-Vacuum's White Star-Ohio Division; and Orville D. Judd, Cleveland, senior specialist, regional office, Office of Price Administration.

Running in Red

Mr. Wilson told the oil men that the East Coast cost pool is running $20,000,000 in the red each month and said that if heavy higher-cost transportation continues much longer without pricewise adjustments, "even the biggest companies will be forced into the bankruptcy court".

Mr. Wilson outlined OPC's pipeline projects and said the cost of the project which will utilize used equipment and involve extensions, conversions or reversals of existing lines is being financed by the companies involved—approximating a total of $35,000,000.

Preceding Mr. Wilson on the afternoon program, Mr. Judd read a prepared address outlining OPA's general policies with regard to price control. He said he had been asked by Washington not to deviate from the text of the prepared address and said it would be impossible to answer questions verbally.

Mr. McLean showed a color movie of first aid practices, and stressed the importance of safety in the oil industry.

Rearrange Your Operations to Survive: That's OPA Advice to Eastern Jobbers

(*Continued from page 4*)

tions for an area whose job it would be to serve society within a certain stated cost without regard for vested interests or time-honored practices.

First, such a "czar" would acquaint himself with all marketing data, especially methods of transportation and costs. And he might "try a game of placing the whole area on the basis of an importing cost 10% less than the cost of the lowest present marketers."

Outlines Economy Measures

Some of the most important economies in petroleum distribution, according to Mr. Collacott, "can be made by integrating the bulk station delivery or jobbing function with that of reselling."

The "hypothetical czar," Mr. Collacott continued, would acquaint himself with the number of people supplying a market and the number and kinds of their trucks. Many of the less efficient trucks might be wisely withdrawn from use, he added. This would reduce unit costs of those trucks to which the gallonage had been reassigned. Cross-hauls should be eliminated so that a marketer stays within his own territory.

Rehandling of products from terminal to truck transport, to bulk plant, to route truck and so on, is "an expense which must be eliminated wherever possible," he added.

Further on, he said "the question of whether the management is absentee or working and whether operations are top-heavy with management expense is a painful one which must be faced."

Concluding, Mr. Collacott said that some of these measures which he listed had undoubtedly been "yardsticks" for marketers for years. But he warned marketers that it would not be enough to look over their business and decide, "this is the best I can do."

"You might start," he suggested, "by getting together with your most friendly competitor, comparing unit costs, making joint use of facilities when that would prove beneficial, combining operations in some cases, making outright mergers in others."

"The absolute best of any marketer in even the smallest item of unit cost should become the standard for all marketers," he said.

Over a nationwide hook up late May 26, Petroleum Co-ordinator Ickes told the New England oil men that little or no relief was in sight, but that his office was doing its utmost to solve the oil transportation problem.

Ickes Talks Over Radio

Mr. Ickes spoke at length about his warnings of an oil shortage last fall and the reluctance of the press to believe him.

He emphasized that it was the Office of Defense Transportation and not his office that was working on nationwide gasoline rationing plans and that this was being done as a rubber, not a gasoline, saving measure.

The Office of Petroleum Co-ordinator "is trying to achieve 2 goals", Mr. Ickes said, "in connection with this East Coast oil supply situation":

"First, we are supplying day-to-day demand as fully as we possibly can, without interference with our prosecution of the war. Second, regardless of whomever may say that it is not necessary, we are trying to build up our inventories to a safe level once more."

In a prepared speech made to the New England oil men before his broadcast, Mr. Ickes told them not to count on any tankers to supply the East Coast and that his office realized the "special problems" of New England in getting sufficient oil supplies, such as long cold winters, location and "number of important war industries".

Virginia Petroleum Jobbers Hear About War Problems

By NPN Staff Writer

RICHMOND—Virginia Petroleum Jobbers Assn. met here on May 21 and heard Paul E. Hadlick, secretary of National Oil Marketers Assn. discuss the Washington situation, especially the synthetic rubber program.

M. B. Whiting, Clifton Forge, president, was re-elected, as were other association officers.

Resolutions adopted included one to ask Office of Petroleum Co-ordinator to put a floor under jobber margins as of last October.

O.P.M.A. Directors Lunch with War Agency Officials

Members of the board of Ohio Petroleum Marketers Assn., pictured at Columbus meeting May 20 when they lunched with war agency representatives who addressed the meeting, are (left to right): J. Roger Day, Edgerton, O., Day Brothers; Robert A. Warfel, Columbus, O.P.M.A. executive secretary; Hubert B. Fuller, Cleveland, O.P.M.A. general counsel; Dr. John W. Frey, Washington, OPC marketing director; Orville D. Judd, senior specialist, Cleveland Regional OPA office; George A. Wilson, Washington, OPC transportation division; R. E. LeRoy, Franklin, O.; Winfield S. Munson, Bristolville, O., Bristolville Oil & Gas Co.; J. R. McElroy, Fostoria, O., Seneca Oil Co.; Robert M. Clark, Columbus, O., Preston Oil Co.; W. J. Loufman, Cleveland, Fleet-Wing

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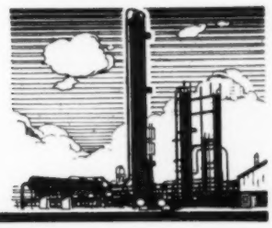
REFINING NEWS



Seek Emergency Source from Small Refiners As Butadiene Shortage Hits Rubber Program

NPN News Bureau

WASHINGTON—Steps are being taken to bring as many refineries as possible into the synthetic rubber picture to provide an emergency supply of butadiene for polymerization plants which are scheduled for completion ahead of butadiene units.

This disclosure came from Rubber Co-ordinator Arthur B. Newhall and the Truman investigating committee, coupled with an announcement by RFC Chairman Jesse Jones that an increase from 800,000 to 1,000,000 tons in the program is contemplated.

Mr. Newhall told a press conference on May 22 that Office of Petroleum Co-ordinator is surveying all possible refineries to find such an emergency source.

OPC Survey Cited

Truman committee, reporting to the Senate on its rubber investigation on May 26 (*see p. 5*), also said OPC is making a refinery survey with the end in view of possibly using small refineries even if it means uneconomical plant operation, because "expensive butadiene is better than none".

The committee said only 1 contract has been let for a 3-way refinery to produce butadiene, toluol and 100-octane, while 4 have been awarded for 100-octane and butadiene—2-way—plants.

Both Mr. Newhall and the Truman committee termed butadiene the bottleneck in the program. The committee suggested it might be necessary to supplement output with less economical production, adding:

Investigate Small Plants

"One possibility now being investigated by the Office of Petroleum Co-ordinator is the utilization of some small refineries which will be forced to shut down due to the gasoline rationing program. They could be converted to production of butadiene from excess gasoline of other refineries. Assuming that the vapor phase thermal method of obtaining butadiene would result in uneconomical operations, although this is not as yet definitely known, it may be necessary to encourage uneconomical operation. Expensive butadiene is better than none. In this connection, it would seem that some certainty should be afforded to the oil industry, so that it could proceed along the less economical lines and yet compete with plants built to produce more economically.

Suggests 'High' Price

"A possible way of accomplishing this would be to set what relatively would be a very high price to be paid for butadiene over and above a set quota produced in a determined period. Different prices might be set for butadiene produced by each of several different types of processes.

"Provision might possibly be considered for refunding necessary capital expenditures in converting equipment but such refunding should be dependent upon the actual amount of butadiene produced and delivered during a determined period. In order to protect the government, provision might be made requiring renegotiation in the event that undue profits resulted."

Revealing that it plans to hold further hearings "at a later date" to check up on the synthetic rubber program, the committee said the program "must succeed", because all synthetic rubber will be needed by the military forces and essential civilian needs.

Sees Cheaper Synthetic

Further, the committee said plans must be laid to supply our minimum needs after the war since there is no assurance the Far East will be a rubber source and experience is likely to make synthetic rubber cheaper than natural rubber.

The committee said it had recommended to War Production Board that the entire war program be reviewed with the objective of saving critical materials, even to the extent of halting construction on some war plants, and added that it did not believe materials should be wasted on synthetic rubber plants to supply military needs that could be pared or for civilian uses that are not essential.

Committee reported its belief that it did not see why 12 months would not be sufficient to build synthetic rubber plants if engineering plans and materials are available.

Catalytic cracking plants for butadiene, the committee said, take longer to build than the polymerization plants which are being held up.

Plant Conversion

Committee refused to form an opinion as to the probable success of reaching production of 350,000 tons of synthetic next year, but said it "is difficult" to see how the goal can be achieved.

Technicians, according to the report, indicated the possibility of securing large quantities of butadiene quickly by converting vapor phase thermal cracking plants now in existence, but the process is beset by these problems: 1, high temperatures of operation require equipment reassembly; 2, large volumes of gas produced and low liquid yields make the process expensive; 3, a beneficial additional product of the operation is toluene; and 4, many refineries would be required and those selected "must be carefully chosen to avoid loss in volume of other petroleum war products".

"So far as the committee can ascertain, the program is now being pushed on the basis of single product catalytic cracking plants which will produce butadiene," the report said. "If this program produces sufficient quantities of butadiene to make the required amount of synthetic rubber in 1943, we will probably be on the way out of the woods."

Butyl More Prominent?

Grain alcohol apparently was turned down as a source of synthetic because of the high cost involved, the committee said, but alcohol must be considered if other expensive production methods are studied.

While Butyl rubber is not supposed to be as good for tires as Buna-S, the butadiene shortage may force an increase in production of Butyl which "may eventually provide the solution of the problem of furnishing some tires to the general public", report continued, warning that "this is not a present possibility".

The committee did not venture a decision on suggestions made to it that butadiene, toluol and 100-octane be placed in the hands of a single fully responsible agency, but did say emphatically that the rubber program would be retarded if

Refiners Now Spending $100,000,000 a Month

NPN News Bureau

WASHINGTON — Priorities situation for refiners is improving now, with result that approximately $100,000,000 a month is being spent on new construction, expansion and conversion to meet wartime demands in the manufacturing branch of the oil industry, according to an informed source here.

There is still some difficulty in obtaining equipment but as the industry pares down its needs for critical materials by substituting others wherever possible, the situation is easing, he added.

Refinery Operations

(American Petroleum Institute figures in barrels of 42 gallons. Figures are U. S. totals and are on a Bureau of Mines basis. Breakdown by districts will be published in June 3 NPN.)

	Week Ended May 23, '42	Week Ended May 16, '42	Week Ended May 24, '41
Crude runs to stills (Da. avg.)	3,393,000	3,484,000	3,922,000
Gasoline production at refineries including natural blended	10,042,000	10,945,000	12,780,000
Finished & unfinished gasoline stocks	97,034,000	99,134,000	94,141,000
Gas oil & distillate stocks	30,614,000	30,206,000	34,906,000
Residual fuel oil stocks	72,442,000	78,826,000	92,092,000

there is to be divided responsibility.

Until committee's private hearings were under way and the priorities question raised, the report disclosed, synthetic rubber development was blocked by low priorities. During the hearing, however, WPB Materials Director William L. Batt said the highest possible ratings would be given synthetic rubber plants.

Mr. Newhall told his press conference that another bottleneck is compressors.

A recent meeting of WPB which directed the studies of a 200,000-ton increase brought out that WPB might not be inclined to grant additional materials for the increase, and Mr. Newhall suggested that the materials difficulty might be overcome by oil companies switching compressors from one refinery to another. He said this was just an illustration and it was up to the companies themselves to make readjustments of this sort.

The original synthetic rubber program provided for polymerization plant capacity of 40,000 tons which was stepped up to 120,000 tons. Of the 4 companies participating, he said, Firestone already has completed its plant; Goodyear comes in in June; U. S. Rubber in July; and Goodrich in September.

He said Butyl production might be expanded if it is found it can be used satisfactorily for tires. Present program includes 60,000 tons because it was not known what uses could be made of this rubber which is known, however, to be suited for industrial items. About 47,000 tons of rubber will be allotted each in 1942 and 1943 for industrial items. On that basis, he said, there will be an excess capacity of Butyl.

Jersey Develops Simultaneous Method Of Making Rubber, 100-Octane Gasoline

NPN News Bureau

NEW YORK—A new process for simultaneous production of synthetic rubber raw materials and 100-octane aviation gasoline of improved quality in plants already scheduled for construction was announced here May 21 by W. S. Farish, president of Standard Oil Co. (N. J.) Details of the procedure, which was worked out by Standard Oil Development Co., Jersey Standard technical organization, have been supplied to the Office of Petroleum Co-ordinator and the new method will be generally available under the OPC-approved system of licenses now being used in the industry.

The process, he added, which combines alkylation and fluid catalytic operations, will speed up the war program and provide the nation with an increased potential capacity of raw materials for more than 400,000 tons of Buna S rubber and 240,000 tons of Butyl rubber a year.

Change in Technique

It will allow butadiene, basic ingredient of synthetic rubber, to be produced in plants now under construction by refiners for the production of greatly increased quantities of 100-octane aviation gasoline. If the new principle were applied in all of the more than 30 alkylation units in the construction program, butadiene production could be increased 2.5 to 3 times without any sacrifice in quantity and with improvement in quality of the 100-octane output scheduled, Mr. Farish stated, adding that it involves changes in technique only and requires no major plant conversion.

First commercial use of the process will be in a new 13,300 bbl. plant slated to begin operations in August. Besides the full 100-octane output, Mr. Farish estimated that enough butadiene will be produced to make 15-17,000 tons of synthetic rubber yearly. The only production sacrifice, it is claimed, will be in output of low grade fuel.

Prime bottleneck in government's program calling for production of 800,000 tons of synthetic a year has been construction of plants to produce synthetic rubber raw materials, Mr. Farish remarked, adding:

Advantages Cited

"Benefits of the new procedure are three-fold.

"1. We formerly believed that any large production of raw materials for synthetic rubber by oil refineries would automatically reduce the output of 100-octane gasoline, which is essential to our rapidly growing force of fighting planes. This possibility can now be averted.

"2. The new process sets up a large potential supply of needed raw material for synthetic rubber. We use the term "potential" because the amount of synthetic rubber raw material actually to be drawn from these operations will depend upon how requirements for 100-octane gasoline and synthetic rubber are balanced by the war agencies. That is, the synthetic rubber raw material produced by the new procedure might also be used for increasing the quantity and further improving the quality of fighting grades of aviation gasoline.

"3. The new procedure produces an improved quality of base stock for aviation gasoline. . . .Formerly, to have achieved this improvement in quality it would have been necessary to reduce output. The new procedure eliminates this necessity. Some refining units will use it actually to increase output of 100-octane aviation gasoline."

S.A.E.-A.P.I. Co-operative Council Plans Program to Correlate Research

NPN News Bureau

NEW YORK—Cooperative Research Council created to centralize, correlate, and promote co-operative research activities of the automotive, aeronautic, and petroleum industries and sponsored jointly by the Society of Automotive Engineers and the American Petroleum Institute has started operations from its new headquarters here.

Council's purpose is to "direct cooperative research in developing the best combinations of fuels, lubricants, and equipment powered by internal-combustion engines." It consists of twelve members appointed to serve for one year—six for the S.A.E. and six for A.P.I. as follows:

S.A.E.—B. B. Bachman, Autocar Co.; J. M. Crawford, Chevrolet Division, General Motors Corp.; William Littlewood, American Airlines; J. B. Macauley, Jr., Chrysler Corp.; Arthur Nutt, Wright Aeronautical Corp.; and C. G. A. Rosen, Caterpillar Tractor Co.

A.P.I.—D. P. Barnard, Indiana Standard; A. L. Clayden, Sun; T. G. Delbridge, Atlantic Refining; R. A. Halloran, California Standard; K. G. Mackenzie, Texaco; and G. G. Oberfell, Phillips.

Officers Elected

At the organization meeting of the Council April 13, B. B. Bachman was elected chairman and T. G. Delbridge vice-chairman. C. B. Veal, for 16 years S.A.E. research manager and secretary of the Cooperative Fuel Research Committee, has been appointed secretary of the Council, and R. P. Anderson, secretary of the general committee of the Division of Refining of the A.P.I., has been named treasurer.

New Process Makes Iso-Butane Supply For Aviation 'Gas'

NPN News Bureau

CLEVELAND — Two commercial plants are now being installed in this country and more are planned, it is said, to isomerize normal butane into iso-butane by means of a process developed by Universal Oil Products Co., Chicago. Iso-butane is one of the principal hydrocarbon compounds used in making 100-octane number aviation gasoline.

This process, on which patents were issued less than a month ago, provides for the use of catalysts of the metallic class, of which aluminum chloride, zinc chloride and boron fluoride, among others, are examples, and hydrogen halides, another class of chemical compounds which act as promoters in a catalytic reaction. In its operation, normal butane and a small proportion of some hydrogen halide are passed through the reaction zone containing the catalyst which is maintained under isomerizing conditions. Elevated temperatures and superatmospheric pressures are used. It is claimed that this process, which may be operated either under batch or continuous conditions, will convert 60 to 65% of the normal butane into iso-butane.

The supply of normal butane that can be recovered from natural and refinery gases is around 3 times the supply of iso-butane.

A method has also recently been announced which is said to make possible the use of propylene and other low boiling point hydrocarbons, as well as butylenes, with iso-butane in the alkylation process, which finally produces the alkylate or blending agent for aviation gasoline. With the use of propylene as the olefin in the alkylation reaction and increased volumes of iso-butane as the paraffin compound, through isomerization of normal butane, the potential supply of both olefin and paraffin compounds for the alkylation process is greatly enlarged.

N.P.A. Standards and Tests Sets Meeting Dates

WASHINGTON—The Departments of Manufacture and Standards and Tests of the National Petroleum Assn. will hold two meetings in June—one at Emery Hotel, Bradford, Pa., on June 2; the other at Arlington Hotel, Oil City, Pa. on June 3. Both meetings begin at 6:30 p.m.

Refining Technology

INCLUDING INTERNATIONAL PETROLEUM TECHNOLOGY

War Program is Stimulus to the Building Of Continuous Catalytic Cracking Plants

● Under the impetus of the petroleum refining industry's war program, truly continuous catalytic cracking is coming into considerable commercial use. Very little notice has been given this development because the attention of the public and the oil industry as well has been so taken up with the discussion of the war requirements of aviation gasoline and synthetic rubber. Some authorities, however, call the commercial introduction of continuous catalytic cracking as important and revolutionary in refining methods as was the first use in distillation processes, back about the time of the last war, of the tube or pipestill, which did away with the batch or intermittent processing, with its cycle of charging, operating and shutting down to clean out the still.

With the earlier catalytic processes, continuous cracking operations are maintained by having several chambers, or cases, in which the reaction takes place, the time of charging and of regeneration of the catalyst in each chamber being arranged in a cycle, so the flow of charging stock into the unit is continuous. In the "moving bed" catalyst process developed by Socony-Vacuum Oil Co., just announced, and the so-called "fluid" process of the Standard Oil Co. (New Jersey) which was introduced over a year ago, the catalyst flows, or moves, continuously from the reaction chamber through the regenerating chamber.

It is said there are now well over 20 installations of plants of these two processes either building or contracted for by oil companies, including some independent refiners. One large plant, under construction for two years, has just been placed in operation. The advantages of the continuous method and the pressure of the war program has hastened the arrangements to build commercial units, even though the experience with this development in catalytic cracking thus far has been limited to experimental and semi-commercial units.

The advantages of continuous catalytic cracking are said to include lower construction costs per barrel of charging stock, and simplicity in operation as compared with the intermittent process, where the operation has to be stopped to regenerate the catalyst. Claim is also made that smaller amounts of alloy steels with a high chromium content are called for in the continuous catalytic units, because the reaction vessels do not have to be submitted to as high temperatures, since the catalyst is not regenerated in them. Refinery technologists see another present advantage in the installation of catalytic cracking units now, of either the continuous or intermittent type. This is that the plants having such units can use their existing thermal cracking equipment to reform the naphthas that would otherwise go into heavy motor fuel, and thus provide material for aviation gasoline. This is one means suggested for refiners to keep down their output of motor gasoline, in view of the decreasing market for this product, while at the same time maintaining full rate of production of the essential war products at their plants.

The Thermofor Catalytic Cracking process developed by Socony-Vacuum Oil Co., is the adaptation of the principle of continuous movement of the catalyst bed to the Houdry process. It is known as the moving bed process and gets its official name from its use, in the regeneration of the catalyst, of the Thermofor kiln, which was developed by this company a few years ago for regenerating percolation filter clays. As described in a paper presented before the American Petroleum Institute in 1939* the Thermofor kiln consists of a stationary chamber containing vertical heat-transfer tubes, through which a heat-transfer medium flows. The heat-transfer tubes are surrounded by an interlaced structure of angle irons, with their apexes pointing upwards and with air ports so arranged that their openings are directly underneath a closed area of an intercepting angle iron immediately above. The arrangement of angle irons provides the required burning hearth surface, insures uniform flow of clay through the kiln and provides air passages up through the clay. The advantages of the kiln are said to be the positive temperature control, controlled burning rate and method of heat transfer.

In the Thermofor Catalytic Cracking process, the charging stock is introduced into the catalyst in a reaction chamber through which the catalyst bed moves continuously and thence through the kiln, where it is regenerated. In the Houdry process the reaction takes place in vessels or cases which are intermittently on stream and then off stream while the catalyst is being reactivated. The announcement of the Thermofor catalytic process, which is licensed by the Houdry Process Corp., states it provides an economical means for producing not only 100-octane aviation gasoline but also butadiene and toluol. In addition, yields consist of a catalytic gas oil suitable for marketing as heating oil and limited quantities of motor gasoline.

The "fluid catalyst process" of the Standard of New Jersey was announced over a year ago as a "revolutionary catalytic technique" and a companion to that company's hydrogenation and reforming processes. It is said

* "New Thermofor Kiln and Clay-Regeneration Processes for Maintaining Decolorizing Clays at High Efficiencies," by T. P. Simpson and J. W. Payne, Socony-Vacuum Oil Co., Paulsboro, N. J., presented at American Petroleum Institute annual meeting, Chicago, Nov. 16, 1939.

that 17 installations of this process are now being made, both by units of this company and by other oil companies.

The continuous operation is briefly described thus:

"In the fluid catalyst process we maintain continuous cracking operations in one chamber and regeneration, or cleaning of the catalyst, in a separate zone, through which the catalyst flows like a liquid. The only thing that moves is the catalyst itself and the operation is continuous, like that of a steam turbine." This process also is available to other oil companies by license.

Sights Set on 50% Increase In Scrap Collections in '42

Sales of ferrous scrap metal by the Standard Oil Co. of New Jersey for the first three months of 1942 were 8653 long tons, as compared with sales for all of 1941 of 16,526 tons, President W. S. Farish reported to the District 1 General Petroleum Industry Committee. He said the company estimates its collections of scrap metal, rubber and other materials for all this year will be considerably more than 50% larger than in 1941.

Standard of New Jersey, as an aid in the war effort, in January laid out its program for collecting the maximum amount of scrap materials of all kinds and for getting these materials into scrap dealers' hands promptly, to facilitate their delivery to the steel mills to relieve the shortage of metal for their furnaces. The first step was to centralize in one individual the responsibility for making studies, recommending principles and methods to be followed, disseminating information and making consolidated reports of results.

This principle of centralization was continued by suggesting that each operating group or plant likewise appoint one man, or a small committee, to carry on the scrap collection work in that unit. All units submit at the end of each month a report showing the weights of materials sold and to whom, divided into ferrous, non-ferrous, rubber, paper and miscellaneous materials. A consolidated report is prepared by the head of the program to send to the War Production Board and to company executives.

The following basic principles were incorporated in the company's program to aid in collecting the maximum amount of scrap and moving it into scrap dealers' hands promptly:

1—Disposal of scrap should be made by the accumulating units to their usual outlets.

2—Any saving that might be directly realized through prices received for the materials was not to be the dominating factor governing the decision to sell.

3—All obsolete materials and plant equipment not in active service were to be studied for scrapping, except storehouse regular and insurance items, purely temporarily idle items and others of this nature.

The program of New Jersey Standard lays emphasis on two possible sources of additional scrap, which has aided in increasing the volume of collections:

A—General housecleaning, which includes a general cleanup around shops, tank fields, process operating units, shop benches, stock yards, abandoned bulk plants, craftsmen's caches, and other points.

B—A more aggressive program for dismantling idle and obsolete equipment, including stills, towers and abandoned pipelines.

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Oil Men Address Chemists

Two oil company scientists were speakers at the 20th annual meeting of the American Institute of Chemists May 16 at Atlantic City. Dr. Gustav Egloff, Universal Oil Products Co., spoke on "The Petroleum Chemist at War", and Dr. Donald Price, technical director, National Oil Products Co., on the topic "The Chemist in Today's Industry". Dr. William Lloyd Evans, professor emeritus of Ohio State University, was recipient of the Institute medal at the banquet.

Improved Methods for Handling Coal As Industrial Fuel is A.S.M.E. Topic

Improved methods for the use of coal as fuel in industrial plants and also in domestic installations are among topics on the program of the semi-annual meeting of the American Society of Mechanical Engineers, in Cleveland June 8-10. A paper entitled, "Twenty Years Progress in Domestic Oil Heating", is to be presented at a symposium on domestic fuels by R. J. Bender, Sinclair Refining Co.

Heat transfer problems are to be discussed at a joint session of the Power and Heat Transfer divisions of the A.S.M.E. with a special research committee on critical pressure steam boilers. "Heat Transfer and Pressure Drops in Ljungstrom Type Air Preheaters," by Hilmer Karlsson and Sven Holm, of Air Preheater Corp., is to be presented at this session.

Emergency Standards Being Set Up By A.S.T.M.

To aid industrial firms in procuring and conserving critical and strategic materials, the American Society for Testing Materials has set up emergency specifications and alternate provisions covering many important products. These emergency standards, which include 5 complete specifications and alternate provisions in more than 42 are prepared under a special committee procedure which greatly expedites the work and yet assures its thoroughness.

In steel specifications, the changes include steel castings for normal and elevated temperatures, welded and seamless steel pipe piles, corrosion-resisting sheet, strip and plate and corrosion-resisting material for fusion-welded pressure vessels. Other materials in which standards have been changed include non-ferrous metals and alloys, copper and copper alloys, paints, soaps and other detergents.

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Spent Fullers Earth Found Effective In Control of Incendiary Bombs

By G. C. Jones*

Spent, plant burned fullers earth, such as is found in abundance at a great many refining plants over the country, has been found effective in the control and insulation of incendiary bomb fires.

Advantages of fullers earth over sand, in addition to its being discarded material, are said to be that, since it is lighter than sand, it can be more widely used for insulation of floors, without exceeding building safety factors, and its handling is facilitated by persons engaged in fighting incendiary bomb fires. In many localities, it is pointed out, spent fullers earth in volume is considerably cheaper than sand.

The tests on fullers earth for controlling incendiary bombs were made by the Floridin Co., large suppliers of this material to oil companies, with the co-operation of fire department authorities in Warren, Pa.

THIS is a report on incendiary bomb control work carried out at the research laboratory of the Floridin Co., Warren, Pa. It should be pointed out, at the outset, that it is essentially a comparison of materials suitable for control work, there being no intent to establish or recommend procedures for such control, this subject having been adequately covered by Risinger** and other authorities.

The chief purpose of this investigation was to determine, in the interest of national defense, whether fullers earth—and more especially plant burned percolating clay—may be satisfactorily substituted for sand in the various methods where a similar material may be employed for incendiary control.

The use of spent or plant burned fullers earth in place of sand for incendiary control should be of interest not only to the refiners who discard their material, but to those living in the refining areas where it may be obtained at moderate cost. Since the material is discarded usually after washing and steaming, it was examined both in that state and in the plant burned condition.

General Summary

The results clearly indicate that plant burned fullers earth can be successfully substituted for sand in all cases of incendiary control, the principal limitation being in the bag control method where it is not advisable to use quantities of less than 0.5 cubic foot—or about 20 lbs.

The sand used in these tests proved to be definitely superior to washed and steamed fullers earth, but only slightly superior to plant burned fullers earth. However, the fullers earth has the big advantage of lower bulk density, which is considered of outstanding importance from several viewpoints.

First, many structures that cannot support the required depth of sand can support a large volume of fullers earth without exceeding the safety factors.

Second, as a large part of incendiary control falls to older men, women, and children, the handling problem is greatly facilitated by a lightweight material.

Third, from the standpoint of cost, the fullers earth would be considerably cheaper on a volume basis, in most localities.

An outline of the advantages and disadvantages of the three principal materials examined follows.

ADVANTAGES	DISADVANTAGES
Sand	
1. Very good control. 2. Easy to obtain.	1. High bulk density. 2. Relatively high cost in some areas.
Plant Burned Fullers Earth	
1. Good control. 2. Low bulk density. 3. Good insulating properties. 4. Low cost. 5. Available in large quantities in certain areas.	1. Lack of uniformity without rigid control of preparation. 2. In bag control method not practical to use in quantities less than 0.5 cu. ft.
Washed and Steamed Fullers Earth	
1. Fair control. 2. Low bulk density. 3. Questionable insulating properties. 4. Low cost. 5. Large quantities available in certain areas.	1. Gives off gases when heated which would prohibit use in confined spaces. 2. Definite lack of uniformity. 3. Less effective than burned fullers earth in bag control method, due to burning of adsorbed material.

Comparison of Sand and Fullers Earth for Incendiary Control and Insulation Properties, Using Magnesium Fillings and Turnings

Procedure

A box was constructed as shown in Fig. 1, having 5 compartments, each 11″ x 11″ x 2″ on the bottom part and 11″ x 11″ x 3″ on the top. Thermocouples were fastened in the bottom of each compartment and temperatures were measured with a portable potentiometer as illustrated in Figs. 2, 3, and 4. The procedure followed was to fill each lower compartment with the material to be tested, thus making a uniform 2″ bed, place 59 grams of magnesium turnings in the center of each, ignite with a blow torch, and when combustion was well under way, as shown in Fig. 3, cover the burning magnesium by filling the top rack with an even 3″ layer of the material being tested. The performance was closely followed by visual inspection and periodic recordings were made of the bottom tempera-

TABLE 1—Inspection Data on Three Principal Control Materials Tested

	Lake Erie Sand No. 6645	Plant Burned Fullers Earth No. 6516	Washed and Steamed Fullers Earth No. 6667
Mesh	See Table 2	30/60	30/60
Apparent Density			
Loose (as received)	101 lbs./cu. ft.	30 lbs./cu. ft.	33 lbs./cu. ft.
Packed	111 lbs./cu. ft.	34 lbs./cu. ft.	39 lbs./cu. ft.
Volatile			
At 230° F.	2.3%	10.2%	19.3%
At 1400° F.	3.3%	14.1%	30.0%
Cost, F.o.b. Warren	75c/100 lbs.	50c/100 lbs.	50c/100 lbs.
(Approximately)	75c/cu. ft.	15c/cu. ft.	15c/cu. ft.

TABLE 2—Mesh Analysis of Sand No. 6645

On 20	11.31%
20/25	3.22
25/30	3.76
30/40	14.08
40/50	24.97
50/60	17.59
60/70	10.60
70/80	6.58
80/100	4.19
100-up	3.70

*Floridin Co., Warren, Pa.

**"Fire Bombs, Their Action and Control"; Discussion and demonstration by Joe L. Risinger, Safety Supervisor, Socony-Vacuum Oil Co., before Greater New York Safety Council, New York, March 3-6.

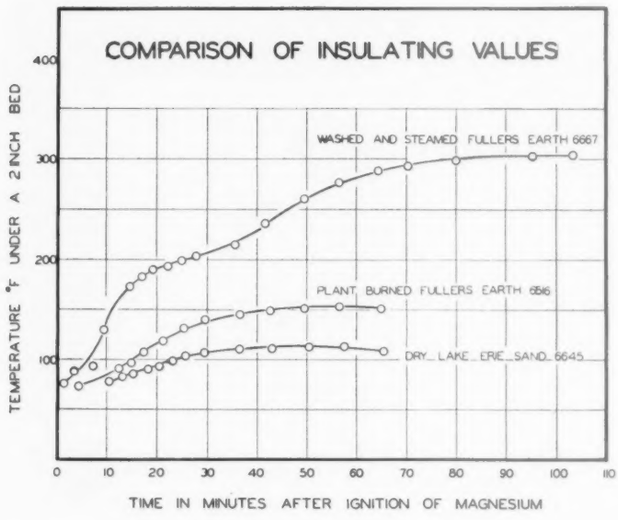
COMPARISON OF INSULATING VALUES
TEMPERATURE °F UNDER A 2 INCH BED
400
300
200
100
WASHED AND STEAMED FULLERS EARTH 6667
PLANT BURNED FULLERS EARTH 6516
DRY LAKE ERIE SAND 6645
0 10 20 30 40 50 60 70 80 90 100 110
TIME IN MINUTES AFTER IGNITION OF MAGNESIUM

Fig. 5—Comparison of insulating values of sand, plant burned fullers earth, and washed and steamed fullers earth, in the control of incendiary bomb fires

tures as burnings progressed. The following results were obtained:

1. Lake Erie Sand (A recommended material for bomb control)
Control very good. Top of bed cool, and little heat rise on bottom as shown in Fig. 5 (Insulation Curve) indicating good insulation. Not all magnesium was consumed, as shown in Fig. 4.

2. Plant Burned Fullers Earth
Control very good. Top of bed cool. Temperature rise on bottom slightly higher than that of sand (Fig. 5) however, insulation considered good. As in the case of sand, not all magnesium consumed—Fig. 4 (Second section from right)

3. Washed and Steamed Fullers Earth
Control fairly good but not equal to sand or plant burned fullers earth. Top of bed warm but not hot. Temperature rise on bottom greatest of all (Insulation Curve). The magnesium was completely consumed as shown in Fig. 4.

4. Air Dried Fullers Earth, fine 100-up Mesh
This material offered very poor control due partially to high moisture content and to fine mesh. There was a "blow torch" effect causing the material to fly about the room. Fullers earth was fused about the magnesium in a solid mass. This material merited no further consideration.

Conclusions from Insulation Tests, Using Magnesium Scrap

Plant burned fullers earth offered nearly as good control as sand, both being superior to washed and steamed clay which apparently induced more complete combustion due to burning of adsorbed materials which it contained. As indicated in the Curve, Fig. 5, the insulating value of plant burned clay is close to that of sand but the washed and steamed fullers earth appeared to be definitely inferior. Fine powdered fullers earth is not as practical as granular material.

Tests With Official Practice Incendiary Bombs

Set 1: Loose or Bulk Method

Materials Used

1. The control materials
In addition to those described in Table 1, new hard-burned fullers earth and diatomaceous earth were used.

2. The Bomb
Practice incendiary bomb 2⅛" in diameter by 8" in length weighing 1.25 lbs., which is composed of a mixture of thermit and ground magnesium alloy, plus a small amount of sulphur encased in a heavy paper casing. It is equipped with an ordinary match-ignited, 15-second, delayed action fuse at one end. This bomb burns at a temperature in excess of 3000°F. for a period of three to four

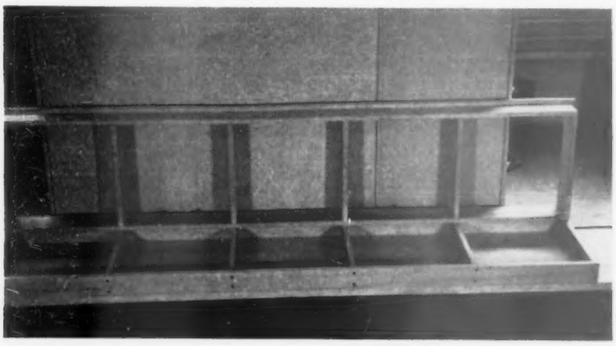

Fig. 1

Fig. 3

Fig. 2

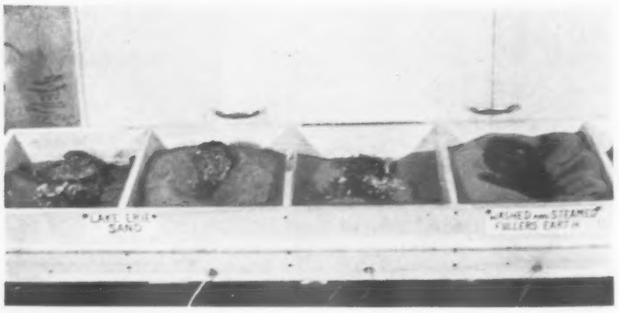

Fig. 4

Procedure in the tests of sand and fullers earth for the control and insulation of incendiary bomb fires, using magnesium turnings

minutes and is just ½ the size of a regular magnesium incendiary bomb.

Testing Method

1. Equipment

The tests were carried out on a piece of plywood 36" x 48" in the center of which thermocouples were fastened as shown in Fig. 6. A wooden frame 14" x 20" on the inside and 3" deep, to hold the control material, was squarely centered over the thermocouples.

2. Procedure

A 2" bed of control material was placed in the frame. The bomb was centered on top of the bed, the fuse lighted, and after allowing combustion to get well under way (Fig. 7) a measured volume of control material was heaped over it, this volume being the same for each material used. Movies in color were made of these tests so that they could be more closely studied. Unfortunately, in spite of the high burning temperatures of these bombs, their combustion period was so short that there was practically no temperature rise at the bottom of the 2" layer of insulating materials.

Discussion of Results

In general, the action of the bombs on the various materials was quite similar, a "blow torch" effect being noted in each case, with the formation of a crater as illustrated in Fig. 8. Dense blue, followed by white, smoke, billowed up during combustion. In no case was the surface or bottom temperature of the control material above 80°F., excepting in the crater area, and the bombs were always completely consumed. Variations noted in the performance of the various materials follow.

Dry Sand—Some sand flowed back into the crater during combustion. Very good control.

Wet Sand—Fire appeared more active than in dry sand. More particles thrown into the air and they did not roll back into crater. Control probably not as good as dry sand.

Plant Burned Fullers Earth—Performed similarly to dry sand with somewhat more rolling action of the material into the crater. Very good control.

Washed and Steamed Fullers Earth—Performed like plant burned clay except dense black smoke was given off from combustion of adsorbed material. After the test, char was noted throughout the area where burning occurred. Good control.

Hard Burned New Fullers Earth—Performance almost exactly like plant burned fullers earth. Possibly slightly more flying material. Very good control.

Diatomaceous Earth—The "blow torch" action of the bomb caused this fine material to fly only until a crater was formed after which burning continued in the tube-like crater with no earth flowing back into it. While this material offered good control here, it would be impractical from a cost angle and also because it would have a tendency to splash out when struck by a falling bomb.

Set 2: Sack Method Of Control

Description of Method, Procedure

The sack method as employed by the British to control incendiaries, especially with the object of preventing the light of combustion to be visible to enemy planes, is simply the placing of a sack of sand on top of the incendiary in such a manner that, when the sack has been burned through, the material will flow over the bomb, concealing the light as well as controlling its activity.

A 20-lb. sack of sand was taken as the standard in these tests, since 17-lb. sacks of sand have been recommended for small bomb control. The materials used were 20 lbs. of sand, 20 lbs. of plant burned fullers earth and 7.5 lbs. of plant burned fullers earth—which represents the same volume as 20 lbs. of sand, Fig. 9.

The procedure followed was to light the fuse, allow the combustion to get well under way, and then cover it with the somewhat flattened sack of material being tested. The results follow:

Dry Sand, 20 Lbs.

As shown in Fig. 10, the fire blew through the end

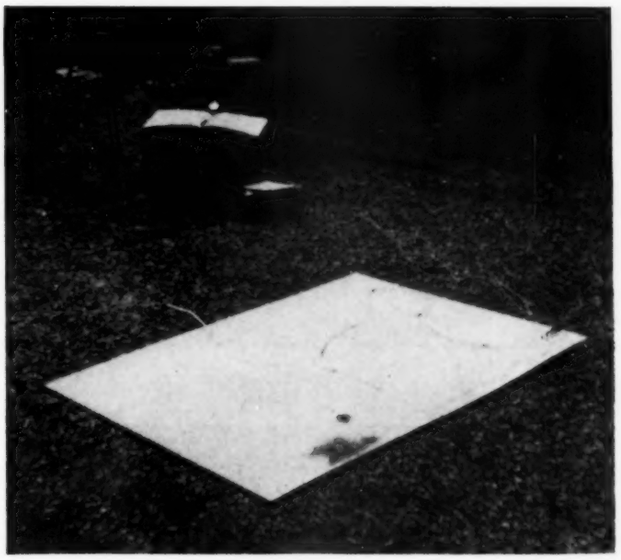

Fig. 6

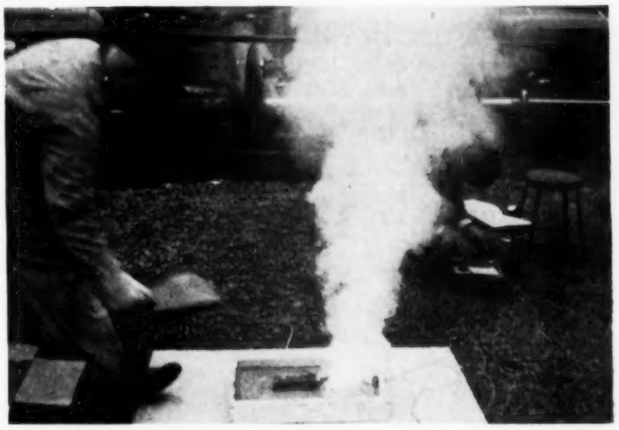

Fig. 7

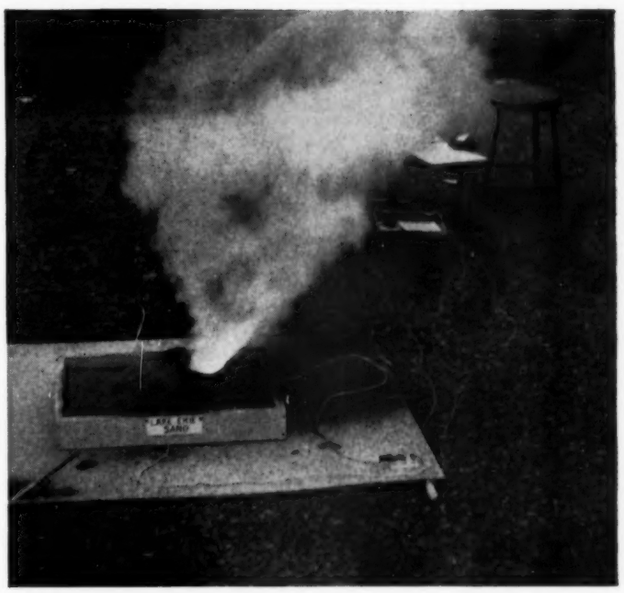

Fig. 8

Apparatus and procedure of tests of 4 types of fullers earth and sand, loose, on practice magnesium incendiary bombs

Fig. 9

Fig. 10

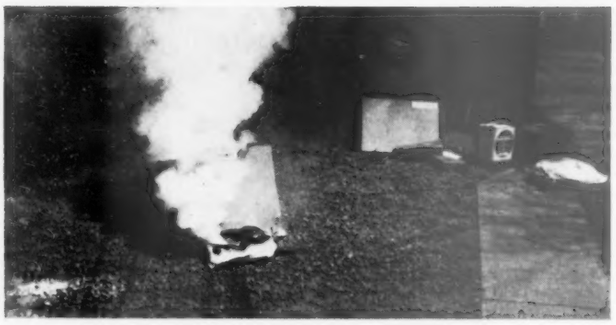

Fig. 11

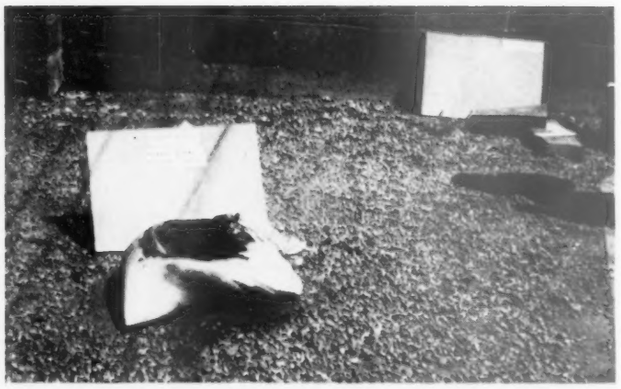

Fig. 12

Tests of fullers earth and sand in bags in control of practice magnesium bomb

of the sack letting the sand run out and exposing the light. This quantity did not appear adequate for proper control.

Plant Burned Fullers Earth, 75 Lbs.

The fire blew through near the end of the sack as shown in Fig. 11, this picture being taken during combustion. This control was below that of 20 lbs. of sand, as there was not enough bulk in this quantity of lighter fullers earth to keep it from blowing out.

Plant Burned Fullers Earth, 20 Lbs.

This sack offered the best control. While the top of the sack finally blew off (Fig. 12), the bulk was sufficient to confine the burning area quite satisfactorily during most of the test, although smothering was not complete.

Conclusions Indicated By Bag Tests

From these tests it is evident that the 20-lbs. size sack of sand and similar volume of fullers earth are not adequate to singly control an incendiary. Several of these applied to one bomb, might be. However, considerably better results were obtained using 20 lbs. of fullers earth and it is felt that complete control could be assured by using two sacks of this size or perhaps one sack of twice this volume.

Miscellaneous Tests

The Attic Test

This test was devised to simulate conditions in attics and similar places where a layer of insulating material, such as sand, is placed on the floor and a wire netting is stretched a few inches above to break the force of falling bombs.

The arrangement shown in Fig. 13 was used. A 2″ layer of plant burned fullers earth was placed in the low frame. On this was imposed a slightly smaller frame 3″ deep and covered with chicken wire. The bomb was placed in the center of the wire and lighted. The burning end of the bomb ignited the inner side of the wooden frame before burning through the wire and falling on the clay bed below. After allowing the fire in the frame to get well under way, as shown in Fig. 14, about 5 lbs. of plant burned fullers earth was thrown on it and the flames were immediately extinguished. This shows plainly in Fig. 15. From this point the bomb dropped on to the bed and burned itself out uneventfully and without further damage.

While this test perhaps did not demonstrate as clearly the adaptability of plant burned fullers earth for such use, as did the insulation test, it did very effectively show the smothering properties of this material on fire.

Bar Magnesium Test

This test was made to study the behavior of plant burned fullers earth under extreme conditions of sustained heat. It followed the procedure of the insulation tests except that a .025-lb. bar of magnesium was used on a 1.75 in. bed of plant fullers earth instead of magnesium filings on a 2″ bed of insulation as in the previous tests.

The temperature rose to 650°F. on the bottom of the bed and although the wood was charred, there was no fire—which indicated a blanketing effect by the fullers earth which controlled combustion.

Russian Method of Control

This is reputed to be the quickest, easiest, and most effective method of incendiary control. It consists merely in throwing the bomb in a quantity of water sufficient to extinguish it. This method is limited chiefly in that it is said that a minimum of about 30 gal. of water is required for the ordinary small incendiary; and there are many places, such as attics, where this quantity could not be kept and where it would be impossible to handle a bomb that had fallen for example, under the eaves.

To simulate this test, a practice bomb was lighted and, after combustion was well under way, thrown into about

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15 gal. of water. It was extinguished instantly as was proved by the unconsumed portion of the bomb that was removed from the water. The results were very impressive and this method should merit the consideration of refineries, factories, and industry in general.

Conclusions

As a result of the tests described here it may be concluded that plant burned fullers earth is about as effective as sand for incendiary control, having very good insulating properties. Its big advantage over sand is its light weight, which makes it much easier to handle as well as making it possible to use where the weight of sand would be prohibitive.

While washed and steamed fullers earth has the same advantage of weight with nearly as good control, its use would necessarily be limited due to the formation of gases from the adsorbed material contained which would be objectionable in confined quarters.

Acknowledgment

The author wishes to acknowledge the co-operation of R. G. Capell and T. C. Atwell, of the Floridin Co., who planned and executed most of this work, and the supervision of Chief D. G. Kropf of the Warren Fire Department, whose able direction made it possible.

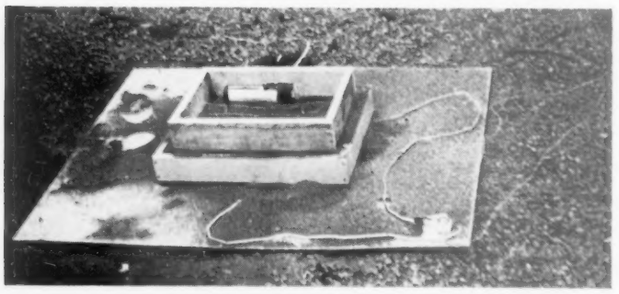

Fig. 13

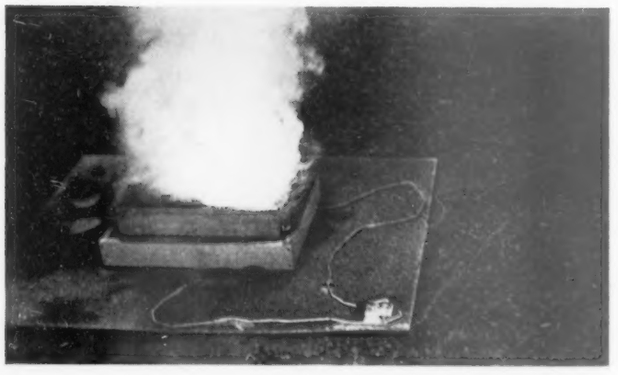

Fig. 14

Fig. 15
Tests of fullers earth under simulated conditions, as in attics, where layer of insulating material covers the floor, and wire netting is stretched a few inches above to break the force of falling bombs

Standards for Special Oil Fire Extinguishing Systems Revised at NFPA Meeting

Revision of the standards for foam extinguishing systems and for carbon dioxide fire extinguishing systems of the National Fire Protection Assn., for oil storage and other industrial plants, was approved at the N.F.P.A. annual meeting in Atlantic City, May 11-14. The N.F.P.A. standards are the basis for regulations of the Fire Underwriters and fire protection authorities. The revisions were prepared by a committee on special extinguishing systems which included two oil company representatives.

The revised standards for foam extinguishing systems supersedes the "Regulations for Foam Extinguisher Systems", edition of 1936, as printed by the National Board of Fire Underwriters and also appearing in the "National Fire Codes for Flammable Liquids and Gases," published by the N.F.P.A. in 1938. The changes cover new developments in foam protection which were the subject of an informative report by this committee to the 1941 annual N.F.P.A. meeting. The new material in the standards, the committee reported, consists primarily of amendments necessitated by the development of new types of foam, those suitable for use on flammable liquids which are miscible with water, such as alcohols, and which may also be used on petroleum products. Also included are some minor changes resulting from recent experience in the application of the standards.

Section 32 of the standards for foam extinguishing systems, covering the required volumes of foam supply, has been revised to define the requirements for the liquid surface area to be protected for storage of alcohols and lower flash point liquids and extremely volatile liquids, as follows:

Type 2 Supply (suitable for use on flammable liquids which are miscible with water, such as alcohols, esters, acetone and which may be used on petroleum products.)

	Type of Foam Discharge Outlet *		
	1	2	3
	Gallons **		
(e) Alcohols, methyl acetate, ethyl acetate, methanol and similar products having a flash point of 25 deg. F. or above and which are partly or completely soluble in water	25	50	60
(f) Lower flash point liquids, such as isopropylether, etc. (15 deg. F.) to (25 deg. F.)	25	50	60
(g) Extremely volatile liquids, such as ethyl, ether, etc. (minus 40 deg. F.) to (15 deg. F.)....	30	50	60

* Types of foam discharge outlets are listed in the standards in the order of their effectiveness as follows:

1—Approved portable or fixed delivery outlets which under severe service conditions will deliver foam on the surfac of burning oil without undue submergence or undue agitation of the surface of the oil.

2—Approved fixed delivery outlets not supplemented with means for delivering foam on the surface of the burning oil without undue submergence or undue agitation of the surface of the oil.

3—Approved portable delivery outlets capable of being raised into place with the minimum manpower, capable of discharging foam into the tallest of the protected tanks and of a capacity suitable for use with the available equipment.

** Number of gal. of foam per square foot of liquid surface of the largest individual tank or that surface requiring the largest amount of foam.

The second part of the special committee's report covered revisions of the N.F.P.A. standards for carbon dioxide fire extinguishing systems. These supersede the edition of February, 1942, as printed by the National Board of Fire Underwriters, which was published as an emergency measure to make available the changes in these standards considered by the committee up to that time. The revisions cover both high-temperature and low-pressure systems. The former is defined as systems where the storage of liquid carbon dioxide is at atmospheric temperature, the latter where the storage of liquid carbon dioxide is at a continuously controlled low temperature.

The oil company representatives on the committee of the National Fire Protection Assn. on special extinguishing systems are R. W. Black, Standard Oil Co. of New Jersey, and J. Howard Myers, Atlantic Refining Co.

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Increasing Butane Recovery at Gasoline Plants from Existing Equipment

PRACTICAL methods by which natural gasoline plant operators can increase their output of butane and isobutane from existing equipment to meet expanding war needs were presented at the meeting of the Natural Gasoline Assn. of America in Tulsa, May 14-15, by J. W. Wilson, Cities Service Oil Co., Bartlesville, Okla.

To emphasize the urgent need for securing the maximum possible output of these liquefied petroleum gases, Mr. Wilson said that 62,000 bbls. daily of isobutane and 52,000 bbls. daily of butylene would be required to meet the requirements of the aviation gasoline program. Gasoline plants will have to supply part of the isobutane and also normal butane to convert into butylene. To manufacture 700,000 tons annually of synthetic rubber would call for around 45,000 bbls. daily of butane, he said, a good share of which would also have to come from natural gasoline plants.

Mr. Wilson's paper, entitled "Increasing Recovery of Liquefied Petroleum Gases in Natural Gasoline Plants", is reviewed in detail below.

Plant operators, in preparing to adopt any and all practical methods to increase their extraction of butane and isobutane, it was suggested, should first determine the present extraction efficiency of the plant by making low temperature distillation analyses of inlet and outlet gases and of any vapors lost from the plant. From the analyses of the inlet and outlet gases, absorber efficiency of the components of the plant can be calculated. The speaker referred to data presented before the California Natural Gasoline Assn.* some years ago as giving the following formula for the oil and gas ratio required to absorb all of the normal butane that any particular type of absorber is capable of recovering under average conditions: "Oil ratio-vapor pressure of normal butane at the temperature of the oil leaving the absorber multipled by 75 and this result divided by the absolute working pressure of the absorber, using the same units of pressure.

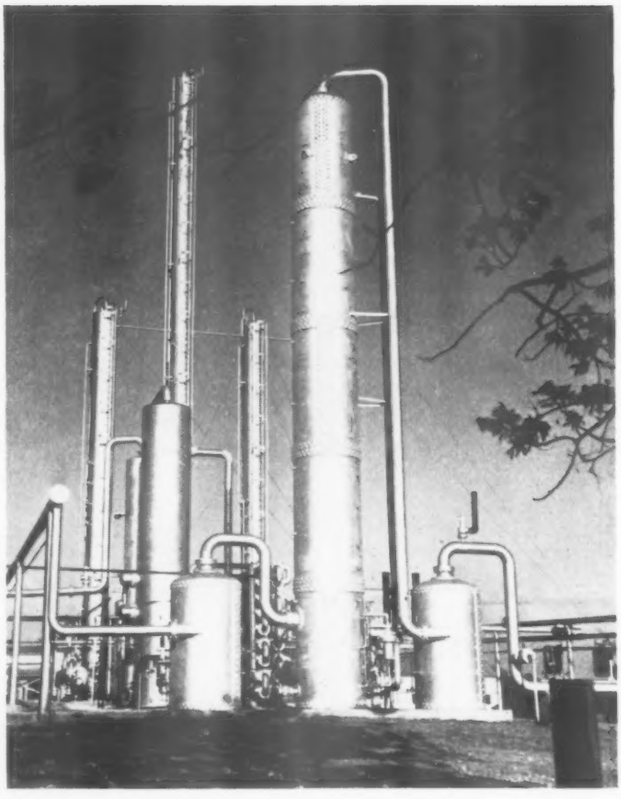
"This formula illustrates the fact that, with increased pressure, less oil is required," the speaker stated. "It also illustrates the fact that, with reduction in absorber bottom temperature, less oil is required. On the other hand, it is obvious that, if oil rates are held constant, then with increased absorber pressure and/or reduced absorber bottom temperature, extraction efficiencies will be increased."

Along with this theoretical consideration, Mr. Wilson also referred to a study of absorption factors presented before the Natural Gasoline Assn. of America** which it was said would be found of practical value in the design and operation of absorption equipment, particularly in showing the significance of the number of plates and the absorber bottom temperature as related to the absorption factor.

Practical considerations the plant management should

*California Natural Gasoline Assn. proceedings, July, 1929; Paper by E. R. Cox and M. L. Arnold.

**"Theoretical Analysis of the Absorption Process," Alois Kremser; Natural Gasoline Assn. of America proceedings, 1930.



Absorber and fractionating equipment of natural gasoline plant of Warren Petroleum Corp. at Madill, Okla., which operates at 300 lbs. gauge absorber pressure and with an oil ratio sufficient to maintain outlet-oil temperature at approximately 100 deg. F. for maximum butane recovery. (See * * * reference in accompanying article)

give to means for increasing butane and isobutane output were listed as follows:

A.—General Survey of Plant Equipment Now in Use, to include:

"1. Number of trays in absorbers.

"2. Present operating pressures, and the possibility of raising absorber pressure.

"3. Oil circulation equipment, and the possibility of increasing oil rates, either at present absorber pressures or at higher pressures.

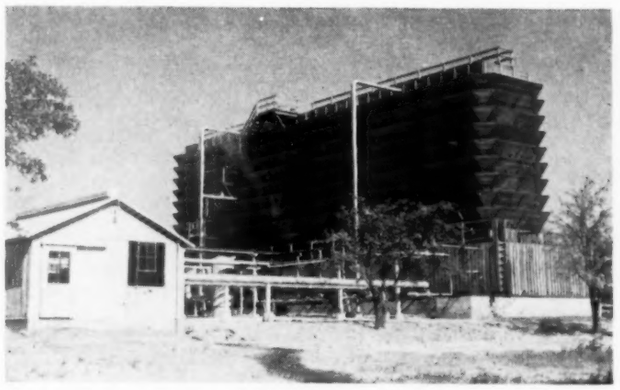
"4. Lean oil temperature at inlet to absorbers. Possibilities of providing more adequate cooling with existing equipment by means of cleanout work, alterations in cooling tower, water distribution, or other means which may be suggested by the inspection.

"5. Lean oil saturation. All of Kremser's theory of absorption assumed a negligible saturation of the lean oil. Adequate means for thorough stripping of the oil should be provided, including measurement of the stripping steam and efficient laboratory control.

"6. Possibilities of providing additional compressor capacity for refrigeration work by transfer of load to underloaded compressors."

B. Survey of Idle Equipment:

This should take in non-operating plants, warehouses and surplus material yards, it was recommended, and should



Cooling tower at Madill plant of Warren Petroleum Corp.

include absorbers, exchangers, cooling towers, cooling sections, gas engine compressors, pumps and fittings and materials, which might be required for installations at new locations.

C. Increasing the Number of Effective Absorber Plates by Placing Two Absorbers in Series:

"If each absorber alone has 12 actual plates," said Mr. Wilson on this point, "then in series the effect will be similar to that of one absorber having a total of 24 actual plates. In this arrangement the gas should enter No. 1 absorber at the bottom, pass out at the top and enter No. 2 absorber at the bottom. The lean oil should enter the top of No. 2 absorber, counter-current to the gas flow, and be trapped out at the bottom into a suitable surge tank. A pump should then be provided to transfer the partially enriched oil from the surge tank through an oil cooler to the top of No. 1 absorber. This arrangement provides intercooling, which will tend to remove the heat of absorption acquired in No. 2 absorber. The compensating advantages should more than offset the disadvantages of using an additional pump, which in most cases will be on a comparatively light load, due to a low differential in oil circuit pressures between intake and discharge of pump."

D. Desirable Properties in an Absorption Oil:

(These were listed in the order of their importance, the speaker noting that, due to the complexity and variety of crude oils, it is almost impossible to obtain from any one of them an absorption oil which has every desirable feature.)

"1. Molecular weight should be low, as absorption efficiencies increase with decrease in molecular weight of the absorption oil.

"2. The oil should have a low average boiling point.

"3. Boiling range should be short, i.e., around 100°F.

"4. Initial boiling point should be as low as practicable with the type of distillation equipment employed, but probably not below 400°F. in most cases.

"5. Gravity should be between 38 and 40° A.P.I.

"6. The oil should contain a low percentage of unsaturated hydrocarbons, due to their poor stability to heat and air. On the other hand, a high percentage of naphthene and paraffin hydrocarbons are desirable as they are the best absorbents and resist oxidation or deterioration from heat.

"7. The oil should be free from organic acids and refining agents.

"8. Pour and cloud tests should be low, the pour point considerably below the lowest operating temperature.

"9. The oil should be sulfur-free.

"10. Color should be 16 to 21 Saybolt as an indication of refinement."

E. Oil Reconditioning Stills:

"Absorption oil can be kept at a high percentage of its original efficiency by the use of continuous rerun stills," Mr. Wilson stated. Where the oil is in very poor condition and where heat exchange efficiencies are low, due to deposits on tubes in the oil circulation system, the speaker recommended that the entire system oil be dumped and the system cleaned by circulating some suitable cleaning compound. In severe cases, it was said, it may also be necessary to remove the heads from exchangers and tube bundles for manual cleaning with augers and brushes. The system should be filled with fresh virgin oil and operations resumed. The oil rerun still should be started soon after resuming operations, it was said, in order to maintain the efficiency of the new oil as long as possible.

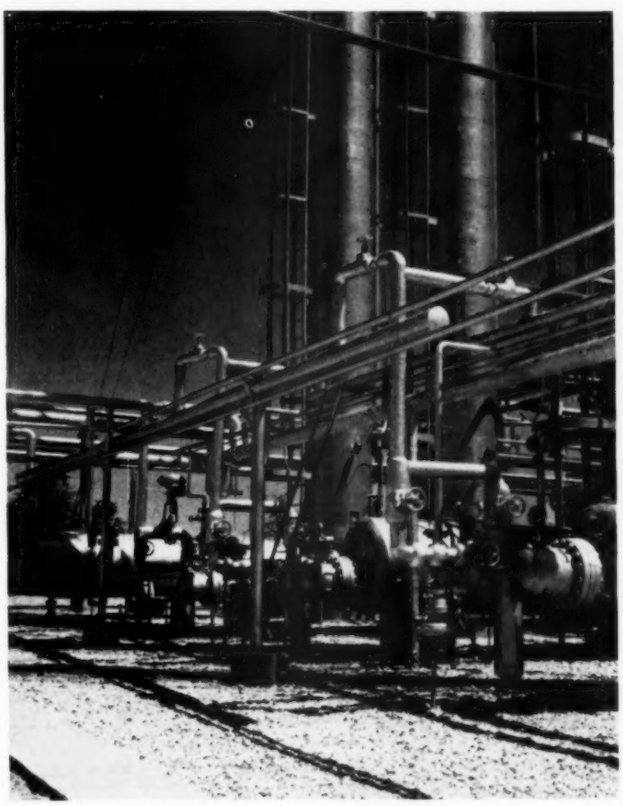
F. Absorber Pressures:

"While absorption factor is directly proportional to both the oil ratio and the absolute absorber pressure, it is usually more economical to obtain an increased absorption factor by means of elevating pressures than by increasing oil rates," said Mr. Wilson on this point. "This is particularly true where a shortage of residue gas for fuel exists, or where the residue gas has a sales value.

"In most plants now operating at absorber pressures of less than 50 lbs. gauge it will be found that these pressures can be safely raised to 60 or even 75 lbs. gauge. However, before doing so, it would be well to check the safe working pressures of the equipment involved with the manufacturer, and in cases where corrosion is suspected, it would be advisable to make an internal examination of this equipment before raising pressures much above present levels.

"In some instances it may be found desirable to install high pressure absorption equipment if such is available, particularly at points where residue gas is now being boosted into high pressure lines. It was our privilege recently to examine operating data from a plant*** operating at 300 lbs. gauge absorber pressure, and with oil rates sufficient to maintain outlet oil temperature at

***Madill, Okla., plant of the Warren Petroleum Corp.



Reboilers and bases of fractionators at gasoline plant of Warren Petroleum Corp. at Madill, Okla.

approximately 100°F. Low temperature analyses of the inlet and outlet gases were as follows:

	INLET GAS Mol. %		OUTLET GAS Mol. %
C_1	74.24	C_1	88.17
C_2	9.24	C_2	9.09
C_3	7.51	C_3	2.74
i-C_4	1.30	i-C_4+	0
C_4	3.03		
C_5+	4.68		
	100.00		100.00

"Oil ratio in the above instance amounted to 30.8 gal. per M cu. ft., and actual extraction checks reasonably close to a normal butane factor of 2.71 for 100% extraction of isobutane, and approximately 59% extraction of propane. Actual extraction of propane was 63.52%. This higher actual extraction bears out the earlier statement that where bottom temperatures are used in computing the absorption factor, the computations are conservative."

G. Refrigeration:

"In recent years," the paper stated, "many operators have resorted to refrigeration as a means of chilling the lean oil, either removing the heat of absorption from the oil part way down the absorber, or chilling the lean oil entering the top of the absorber. Either method was described as an effective and simple method of increasing extraction efficiencies at the average gasoline plant, particularly where idle or under-loaded compressor capacity exists.

"If possible, a reasonably pure hydrocarbon, either butane or propane, should be used as the refrigerant," the paper stated, "since the mixed hydrocarbon represents the bad feature of high condensation pressure as related to vaporization temperature pressure. This increases the ratio of compression and the horsepower required for any given BTU extracted per hour.

"In many cases," it was said, "great improvement in extraction efficiency can be obtained with refrigeration equipment salvable around the plant.

"The same conditions prevail in cooling absorption oil by refrigeration as apply to any other efficient heat transfer. It is desirable to pass the oil through the tubes of the cooler in order to obtain turbulent flow. The ebullition of the refrigerant helps to maintain turbulence in the shell of the cooler and obviates one of the problems of heat transfer.

"Any cooling done by refrigeration must be offset by additional cooling load on condensing equipment equal to the BTU per hour handled by coolers, plus the heat of compression; otherwise, the addition of refrigeration equipment adds to the total BTU per hour load on the cooling tower."

H. Removal of Light Gases from the Fat Oil:

"With the increased absorption factor required for maximum extraction of butane, the absorption of propane, ethane and methane will also increase," this paper brought out, "the presence of the larger quantities of these high vapor pressure components in the fat oil amplifying the problem of the maximum recovery of butane. Some methods for reducing the C_4 losses on the condensing and fractionating end of manufacture include:

"1. De-ethanizing the fat oil by means of an oil fractionator.

"2. A series of pressure step-down vent tanks installed so as to vent, as closely as possible, the methane and ethane from the first tank. The retained methane and ethane, a large portion of the propane, and some amount of the heavier fractions might then be vented from the second and lower pressure tank to a reabsorber. Vapors from the third or low pressure tank might enter a recompressor, or possibly the vapor condenser on the distillation unit."

For best results in plant operation, it was stated, it is essential that proper follow-up be made of all pertinent operating data daily. This should be the duty of a competent and experienced engineer, familiar with the design and operating condition of the particular plant.

Committee Reports Discuss Improved Testing Methods

Technical sessions of the convention at Tulsa May 14-15 of the Natural Gasoline Assn. of America for the most part dealt with improving the recovery of butane, propane and their isomers through more efficient operation of stills, more accurate determination of liquefied petroleum gases and their mixtures, and testing and measurement of high pressure gases. Reports of the gas testing and technical committees were elaborated in papers which were presented.

Committee Reports on Glycerine

The report of the Gas Testing Committee, presented by H. L. Oder, Cities Service Oil Co., Bartlesville, chairman, specifically dealt with revision of Appendix 1 to the Charcoal Adsorption Test Code and reclamations of, or substitutes for, glycerine. In the code revision, changes were confined to more closely defining the test procedure and reduction of tolerances which the old test procedure permitted.

In dealing with reclaiming glycerine or finding substitutes, the committee pointed out the war "might soon limit the amount of glycerine available for the distillation of charcoal saturation or prohibit altogether its use for such purposes. On reclamation processes the following suggestions were reported: "Charcoal-glycerine distillation at atmospheric pressure with redistillation of distillate to remove water, leach glycerine from the charcoal with distilled water, and distill off the water; same, except distill under 10-20 mm. Hg absolute pressure; and reactivate charcoal bottoms from all above processes."

Substitutes for glycerine such as mercury, diethylene glycol, high boiling mineral oils and water were discussed, each with advantages and disadvantages. Suggestions for still other substitutes were requested and the committee did not specifically recommend any substitute.

Density Tables Prepared

The technical committee reported through H. H. Beeson, Sabine Valley Gasoline Co., chairman, that density tables on liquefied petroleum gases had been prepared and would be available shortly, and that a table containing only physical constants for normal hydrocarbons was being presented for adoption, with a supplementary table for isomers to be presented later. The report also discussed a method for determination of gravity of liquefied petroleum gas mixtures in future studies, and stated results from study of low-temperature fractional analysis of gases would be elaborated in other papers to be presented.

Other Papers Presented

A paper entitled "The Density of the Liquefied Petroleum Gas Hydrocarbons, Their Mixtures and Three Natural Gasolines," presented by B. R. Carney, Shell Oil Co., Inc., discussed the apparatus for determination of density and accurate volume-temperature correction factors upon which most authorities disagreed among themselves. Test methods and apparatus were described, together with corrections to be applied for increase in vapor space when liquids were cooled and for deformation of equipment with the changing vapor pressures of the liquid gases. Volume-temperature correction tables were constructed for values at temperatures ranging from —40° F to +140° F.

"Studies in Low Temperature Fractional Analysis of Gases," a paper by H. A. Montgomery, Hanlon-Buchanan, Inc., presented results on tests of identical samples from laboratories of 15 co-operating companies, using the standard test procedure recommended by the committee and also by the laboratories' usual test methods. Recommendations were presented for changes in both procedure and

(*Continued on page R-176*)

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Properties of Hydrogen Fluoride As Alkylation Catalyst Described

HYDROGEN fluoride, which is just now coming into use in petroleum refining as a catalyst in the alkylation process to produce 100-octane number aviation gasoline, will be widely used in the future, some authorities believe, and to secure other essential products that come from the low boiling point hydrocarbon compounds.

At least 3 commercial plants are now known to be under construction by oil companies to use the new hydrogen fluoride alkylation process of the Universal Oil Products Co. A good deal of experimental work is also going on in many plants in the use of this reaction agent in making butadiene, styrene, benzene and other wartime products from a petroleum base.

A principal advantage claimed for the use of hydrogen fluoride as a catalyst in the alkylation process is that it makes practicable the use of propylene as the olefin in the reaction, thus opening up a large potential new supply of hydrocarbon compounds for the manufacture of aviation gasoline. The volume of propylene available from refinery gases and from natural gas is approximately double that of butylene, which is largely the source of olefins for the alkylation reaction where other commercial catalysts are used. General advantages claimed for the use of hydrogen fluoride are that yields are improved and that simpler and more economical processing is possible than with other commonly used commercial catalysts.

A good deal of work in the use of hydrogen fluoride as a reaction agent in organic chemical processes has been done at Pennsylvania State College, under the direction of Dr. J. H. Simons. Results of experiments in the laboratories of that institution have been published in the Journal of the American Chemical Society, starting in 1938.

A general article by Dr. Simons describing the advantages of hydrogen fluoride, which appeared in February, 1940, in the journal of the chemical society, Industrial and Engineering Chemistry, is still referred to for a description of the characteristics of this chemical and a discussion of the reactions where it is used. In view of the present experimental work by oil companies and the coming commercial use of hydrogen fluoride, certain portions of this article are republished here. The article was entitled "Potential Use of Hydrogen Fluoride in Organic Chemical Processes."

"It has recently been found that hydrogen fluoride is a useful reagent for many organic chemical reactions", stated the article. "In some of these it acts as a fluorinating agent, but in most of them the products formed contain no fluorine. For conducting these reactions on an industrial scale, hydrogen fluoride appears to have properties which should make it preferred over other reagents used to obtain the same products. The chemical properties which probably govern its action in organic reactions are its strong solvent property, its high acidity, its great dehydrating tendency, the insolubility of the other halogen halides in it, and its great tendency to combine with itself and other substances to form molecular complexes. Although the work relating to the use of hydrogen fluoride in organic chemical reactions is recent and few investigations have so far been published, it has already been shown to cause reactions which may be listed under the following headings—polymerization, alkylation, acylation, special reactions, and fluorination."

The article then goes on to describe these various reactions. Concerning the alkylation reaction it states: "In view of the great polymerizing power of hydrogen fluoride it is surprising that it can be used to prepare simple organic compounds in good yields and without the formation of any appreciable amount of unwanted polymers. This, however, is the case and it will probably constitute the greatest industrial use of the material."

"As a catalyst for alkylation reactions, hydrogen fluoride has been used with alkyl halides, olefins, alcohols, esters, ethers and with strained ring compounds."

With olefins, the article states, the reaction takes place readily, usually at 0 deg. C., with relatively small amounts of catalyst. The olefin is added slowly, with stirring, to the substance to be alkylated which contains the hydrogen fluoride. This is to prevent the polymerization of the olefin, and under these conditions detectable amounts of the polymers are not found. In this case, as in all cases of alkylation, it is stated, a great excess of the material to be alkylated should be used to prevent polyalkylated products unless they are desired.

"Hydrogen fluoride may be used", it is stated, "to alkylate compounds which are as difficult to alkylate as benzoic acid or aromatic compounds containing the nitro group. The reason probably is that it may be used at relatively high temperatures for long periods of time without the formation of excessive amounts of tars."

The Chemical Properties of hydrogen fluoride as a catalyst are described as follows in the article:

"From the condensation reactions caused by hydrogen fluoride it must be concluded that, although similarities are noted between it and other acidic condensing agents such as sulfuric and phosphoric acids, it also has properties somewhat related to aluminum chloride, boron fluoride, and the other metallic halide condensing agents. It seems to be able to catalyze most of the reactions promoted by any and all of these other substances. Why this should be is still a matter of speculation. Hydrogen fluoride might be expected to have properties closely related to hydrogen chloride and to water, but they do not catalyze the condensation reactions effectively. A relation to these substances, however, is seen in the reactions of hydrogen fluoride with double-bonded organic compounds and with acyl halides.

"Some striking differences exist between the use of hydrogen fluoride and sulfuric acid for condensation reactions which, from the point of view of industrial utilization, are in the favor of hydrogen fluoride. Sulfuric acid has a great tendency to sulfonate organic substances, particularly the aromatics, and undesired sulfonated residues are formed. In spite of the fact that under suitable conditions hydrogen fluoride can add to organic compounds, it cannot react in a manner similar to sulfonation because it contains no oxygen. Also, in none of the condensation reactions has fluorine-containing products been found. Sulfuric acid is also an oxidizing agent, and the oxidation of strongly reducing organic compounds results in reduced yields of desired products and in obnoxious residues.

"On the basis of the structure of the molecules it is difficult to see any analogy between hydrogen fluoride and aluminum chloride, which would account for the fact that in condensation reactions hydrogen fluoride catalyzes those reactions promoted by aluminum chloride and boron fluoride. These two substances have (as in the case of boron fluoride) or are in equilibrium with (as in the case of aluminum chloride) molecules in which an atom contains a valence shell of six electrons, and therefore has a tendency to attract and hold the valence electrons of other molecules. This has been held responsible for their property in causing condensation reactions. Although the structure of hydrogen fluoride is unknown, it cannot be

considered similar to aluminum chloride. It does have great tendencies to combine with itself and other substances; but this alone cannot be entirely responsible for the effects, since water also has this property to a marked extent but is not known to be effective in promoting condensation reactions. There are some differencs in the use of hydrogen fluoride and aluminum chloride which are greatly in favor of the industrial utilization of hydrogen fluoride. Aluminum chloride has a great tendency to couple aromatic compounds together and form tarry residues. Hydrogen fluoride does not do this. It also has much less tendency to cause rearrangement of aliphatic chains. There are other differences between the use of aluminum chloride and hydrogen fluoride. The former easily and readily causes acyl halides to react with aromatic compounds; the latter does this only at higher temperatures and with more difficulty. The former can be used only with difficulty to cause carboxylic acids or alcohols (usually with the formation of a halide or complex halide first) to react with aromatic compounds; the latter does this readily."

The text of the article describing the physical properties of hydrogen fluoride is as follows:

"Even if hydrogen fluoride had no advantages from a chemical point of view, such as improved yield, etc., but would nearly duplicate the action of other reagents, it would replace them in industrial use if its physical properties would lead to simpler and more economical processing. Table I gives simple physical properties of common condensing agents.

"Technical advantages for the use of hydrogen fluoride are immediately obvious from a consideration of its physical properties. Its low formula weight gives more effective chemical per pound than any of the other agents. It also has more formula weights per unit of volume. Both of these factors will result in smaller containers and equipment. With its low freezing point it need never be handled as a solid, regardless of how low the temperature required in the process may be. Its convenient boiling point near room temperature enables it to be handled as a liquid or gas. Its addition and removal from reaction and storage vessels can be done entirely through pipes and controlled by valves. It can be stored at high concentration without excess pressure, such as must be used with boron fluoride. Even for reactions at 100° C. it can be retained as liquid in the reaction vessel without abnormally high pressures. Its vapor pressure at 50° C. is only about 2.5 atmospheres. The difficulties of handling a hygroscopic salt such as aluminum chloride will never be experienced with hydrogen fluoride. If it is necessary to add water at any stage of the process, less heat will be evolved per formula weight in the case of hydrogen fluoride than with any of the other agents, and less cooling will have to be provided. If it is possible to remove the agent by vaporization, less heat will be required for hydrogen fluoride than for sulfuric acid or aluminum chloride. Its high fluidity and low surface tension will enable the liquid to flow rapidly, and smaller pipes and valves will be required for it than for sulfuric acid.

"Coupled with its chemical properties, its boiling and freezing point will result in further economies in industrial practice. The freedom from the formation of tarry residues and sludges and the complete liquid solution of the products in most reactions will enable them to be completely and clearly drained from the reaction vessel. In the separation of the products from the reaction mixture when hydrogen fluoride is used, it will, in general, not be necessary to add water. Technical advantages of great importance will thus be obtained. The hydrogen fluoride will be removed by distillation in most cases. Its temperature of boiling is so low that it can be vaporized without injury to the desired product or the formation of obnoxious substances. This will undoubtedly result in further economies. Besides saving a number of steps in the total process, the hydrogen fluoride can, in most cases, be recovered for further use. This is not true for any other agent. In addition, distillable products can be separated in the same distillation. Should the starting substances be distillable and the reaction not go to completion, they can be recovered at the same time. With most other condensing agents in most reactions, any of the starting materials not used are lost in the process. The over-all yields of desired products should therefore be greatly increased. With the ability to recover the starting materials and little loss of them in the formation of undesired residues, over-all yields of products should be extremely high."

On the subjects of relative costs of hydrogen fluoride in industrial use, as compared with other catalyst agents, the article in Industrial and Engineering Chemistry gives the following data. This data are on the basis of costs in 1940. The Harshaw Chemical Co. of Cleveland, from whom the cost data in the article was secured, states the relationship between costs of the 3 chemicals is approximately the same today.

"Hydrogen fluoride is a relatively inexpensive chemical, when the number of formula weights per pound are taken into consideration. Today's prices are approximately as follows: In small cylinders for experimental work the liquid is available at $1.00 per pound in 6-pound quantities with an extra charge of $10.00 for the cylinder. In 100-pound cylinders the price is 50 cents a pound. If there is demand for the material in large quantity, the price may go as low as 20 cents a pound. Table 2 compares the cost of hydrogen fluoride with that of sulfuric acid and aluminum chloride. On a formula weight basis this compares favorably with sulfuric acid and is much less than aluminum chloride. Since hydrogen fluoride can be recovered from a condensation reaction mixture, whereas both sulfuric acid and aluminum chloride cannot, it should be the least expensive reagent to use. This is in addition to the other advantages which the use of hydrogen fluoride seems to promise, such as higher yields from a simplified and more economical technique."

Table 2. Cost Comparison

	Price, Cents per Lb.	Formula Wt. per Lb.	Price Cents per Formula Wt.
Hydrogen fluoride			
Large quantities	20	22.7	0.88
100-lb. cylinder	50		2.21
Sulfuric acid			
Technical, in quantity	1.5	4.6	0.33
C. P., in carboys	7.5		1.63
Aluminum chloride			
Minimum	7	3.4	2.06
Frequent	12		3.53

Table 1—Physical Properties of Common Condensing Agents*

	Formula Weight	Freezing Point	Boiling Point	Heat of Vaporization	Heat of Reaction with Excess Water	Density
	Grams	°C.	°C.	Cal. per formula wt.		G./cc.
HF † (hydrogen fluoride)	20	—83 (16)	19.4	6,030 (4, 26)	11,560 (31)	1.0 at 0°C. (25)
H_2SO_4 (sulfuric acid)	98.1	10.5	Decompn.	12,000	17,800 at 18°C.	1.834 at 20°C.
$H_2SO_4.H_2O$ (mono hydrate of sulfuric acid)	116.1	8.62	290	.....	.....	1.842 at 15°C.
$AlCl_3$ (aluminum chloride)	133.3	194	183	27,500	78,000	2.44 at 25°C.
BF_3 (boron fluoride)	67.8	—127	—101	.....	24,000	.....

*Data obtained from the International Critical Tables unless otherwise noted.
†Liquid hydrogen fluoride also has an extremely low surface tension (25) and a high fluidity.

Committee Reports Discuss Improved Testing Methods

(Continued from page R-172)

apparatus in order to obtain greater accuracy and duplicability of results.

A preliminary report was given by C. H. Lee, La Gloria Corp., on the work done by the Gas Testing Committee in making a study of the methods and equipment in use in testing gas from high-pressure distillate wells. The tests were made on the same gas from the same well in the Gulf Coastal district under identical conditions. Results were compared with those obtained by full scale separation in a high-pressure separator. Setup of the equipment was described and masked results from the various competitive devices given. Full data is not to be published until similar tests are made on wells in other areas. From the work it is hoped that standard methods can be set up for sampling and testing gas from distillate wells.

The paper, "High Pressure Gas Measurement", also in effect was a report on the work of the Gas Testing Committee. Part 1 of this paper, "The Density of Natural Gases", by T. A. Matthews and C. H. Roland, of Phillips Petroleum Co., and Dr. D. L. Katz, of the University of Michigan, reported on an investigation comparing the experimental and calculated compressibility factors on 8 natural gases made by Phillips Petroleum Co., augmented by recent data from Texas A. & M. College on 4 natural gases. Part 2, by Dr. Katz, recommends standard procedures for obtaining orifice correction factors to account for the deviation of gases from ideal gas laws at high pressure. It also discusses the problem of metering gases containing small quantities of liquid present from retrograde condensation, which may interfere with uniform meter operation.

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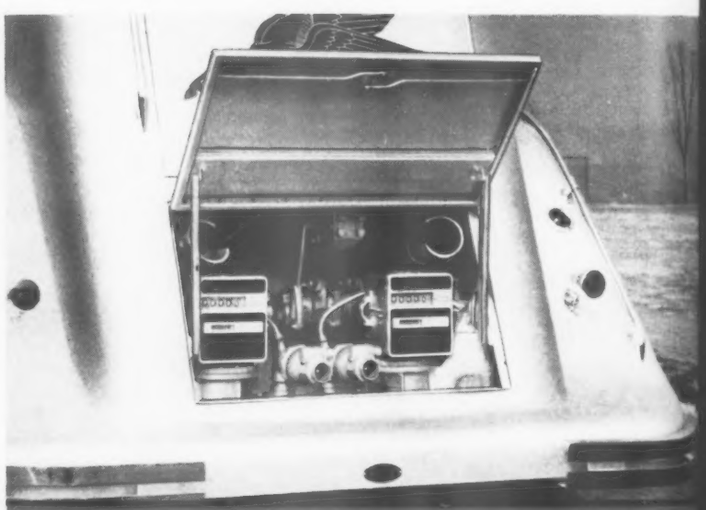
● Handling and delivery costs are rising sharply. Many an oil company's system of operation must be overhauled. Study . . . now . . . how to cut costs. (1) Use your equipment to best advantage. (2) Check and utilize your own "vital statistics." (3) Locate and eliminate stock losses.



The Red Seal Print-O-Meters on this Columbia Tank Company-built truck, operated by Magnolia Petroleum Co., speed up the less-than-compartment deliveries and insure accurate measurement.

Permissible advances in price rates will not compensate, in most cases, for oil marketers' newly added expenses. Bulk plants that must change over from tank car to truck unloadings no doubt will experience the greatest difficulty. But all operators will have their job cut out for them in controlling and smoothing throughput—and staying out of the red.

Problems—But Not Unbeatable

To be profitable, fuel oil consumer-deliveries preferably should be on a degree-day basis, adapted to current regulations and with all card records scrutinized in closest detail. For the delivery of any petroleum product, the problem will be how to have a truck travel fewer miles in delivering the same quantity of product; how to wear out fewer tires and need fewer repairs and replacements.

In all operations, stock losses in handling, storage, transfers, spillage, delivery overfills, etc., should be cut ruthlessly. An exact, daily audit of inventories should be maintained.

RED SEAL BULK PLANT METERS can provide accurate readings at all stages of stock throughput. These records, if used consistently, place the plant's gallonage under perpetual audit. Not only do they indicate any discrepancy between receivals and outgo, but they also show the points in plant operations at which unsuspected leaks and losses are occurring. You therefore have no "unaccounted for" losses—and few losses which cannot be remedied.

Metered control gives you a tight grip on stock inventory. It helps you maintain proper balance between inventory and changing distribution requirements. Accounting, sales records and

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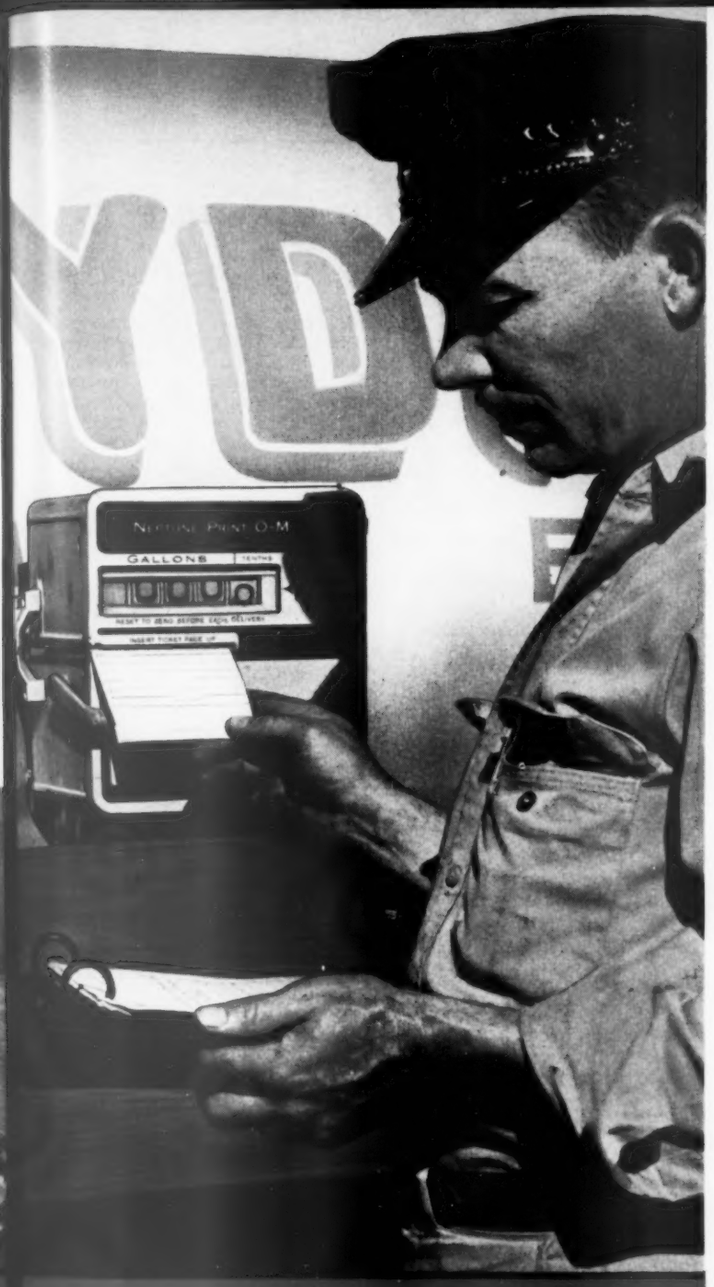
Gasoline Dispensing Pump



No possibility of dispute . . . the ticket printer on this Red Seal Print-O-Meter produces an exact, printed record of the metered delivery! Truck operated by Edwards Gas Appliance Co., San Antonio, Tex.

• *One of the three Red Seal Print-O-Meters on loading rack of Clauss Coal & Fuel Oil, Melrose Park, Ill. Their use, according to the operators, "avoids all doubts and arguments with jobbers, helps keep a perpetual inventory, and avoids spillage and waste in loading trucks."*

tax computations are simplified. A Red Seal Print-O-Meter on the loading rack, for example, makes all the records needed in accounting for each sale—as well as insuring scientific, accurate and fast loading.

DELIVERY TANK TRUCK METERS are indispensable for use with the fuel oil degree-day system, under which some schedules of routes and deliveries now are planned at least three days in advance. Red Seal performance records reveal that three metered trucks can do the work of four or five unmetered ones—and thus make possible the *productive* mileage now so essential.

Since every gallon of fuel oil or gasoline is accounted for by metering, the personnel assumes greater responsibility. Wasteful spillage and other losses are avoided. Tank truck meters such as Red Seal Print-O-Meters also provide a positive check on the sales records and facilitate bookkeeping. Print-O-Meter tickets left with the customer often serve as the sole invoices.

Get the Most Out of Your Meters

Enlightened efficiency in the use of equipment is fast becoming mandatory—for operators who would do their part in the War effort, comply with Government restrictions and stay in business. Perhaps Neptune can show you how to get more benefits from your meters.

NEPTUNE METER COMPANY: Main Office, 50 W. 50th St., New York. Branches at Atlanta, Boston, Chicago, Dallas, Denver, Kansas City (Mo.), Los Angeles, Louisville, Philadelphia, Portland (Ore.), San Francisco, and Long Branch, Ont. (near Toronto).

RED SEAL METERS

NEPTUNE RED SEAL METER CO.

1865

Meters for Barge and Tank Car Unloadings, Storage Transfers, Loading Racks, Delivery Tank Trucks.

OPC Boosts June Quotas 161,800 Bbls.

NPN News Bureau

WASHINGTON — June production rate of petroleum liquids should be 3,636,300 bbls. daily, or 161,800 bbls. daily above the May rates, Office of Petroleum Co-ordinator said today.

Texas was given largest single increase, jumping to 1,068,600 daily for June, compared with an OPC recommendation of 960,000 for May. Other large daily hike was made in Kansas, raising rate to 281,900 bbls. daily from 259,300 in May.

Increase of about 10% in District 3's production, OPC explains, "reflects continued additions to oil movements by barge and overland transportation facilities."

OPC requested Texas Railroad Commission "to allocate the production among the fields in that state so as to utilize to capacity all available pipeline facilities which transport petroleum northward and eastward."

Meantime, OPC says, it is doing "everything possible" to provide increased transportation outlets for District 3.

California's crude quota was raised to provide for increasing Pacific Coast and Navy demands, OPC explained.

To assure capacity operation in Kansas of expanded pipeline facilities due to be completed early in June, Kansas quota was hiked.

"The increase for Kansas particularly offsets the continuing decline in productive capacity of oil fields in Illinois and Oklahoma," OPC said.

Quotas Recommended by OPC

(Barrels Per Day)

District and State	June 1942 Total Petroleum Liquids	May 1942 Total Petroleum Liquids
District 1		
New York	14,900	14,800
Pennsylvania	51,000	50,500
West Virginia	17,800	17,100
Total	83,700	82,400
District 2		
Illinois	320,800	329,200
Indiana	18,900	17,900
Kansas	281,900	259,300
Kentucky	13,000	12,800
Michigan	63,100	60,500
Nebraska	4,100	4,500
Ohio	10,100	10,200
Oklahoma	436,600	438,500
Total	1,148,500	1,132,900
District 3		
Arkansas	75,300	74,000
Louisiana	311,300	298,600
Mississippi	49,200	48,100
New Mexico	80,600	73,300
Texas	1,068,600	960,000
Total	1,584,000	1,454,000
District 4		
Colorado	7,600	7,900
Montana	23,400	25,200
Wyoming	96,200	98,300
Total	127,200	131,400
District 5		
California	691,900	673,800
TOTAL U. S.	**3,636,000**	**3,474,500**

Empty Tankage Needed In Pipeline Program

NPN News Bureau

WASHINGTON—It wouldn't be "feasible" to fill up empty tankage in Texas with current crude oil production because Office of Petroleum Co-ordinator is counting on using many of those tanks in the program of building and relocating pipelines to alleviate East Coast's oil transportation shortage, according to Major J. R. Parten, OPC transportation director, testifying May 20 before Cole oil subcommittee.

States Make Ready For June's Quotas

Special to NPN

OKLAHOMA CITY—June production allowables are to be determined by four states in the week of May 25.

Interstate Oil Compact Commission announced on May 24 that the states would set allowables "with an eye on the East Coast".

The commission said:

"Texas and Michigan hold their hearings on May 26 when the Texas Railroad Commission will receive evidence at Austin, and the Michigan supervisor of wells and oil advisory board meet at Lansing.

"The Arkansas Oil and Gas Commission will meet at El Dorado May 27 to determine June production and the Oklahoma Corporation Commission allowable hearing will be held the following day in Oklahoma City.

Louisiana Sets Quota

"The Kansas State Corporation Commission met in Wichita on May 21 to receive evidence for the June oil allowable order which has not been issued. The Louisiana Department of Conservation held a hearing in New Orleans on April 14 for the determination of oil allowables for May and June, and set a figure of 301,929 bbls. daily, which local underproduction and pipeline proration is calculated to bring down to the 298,000 bbls. OPC certification."

May Permit Closer Spacing To Illinois Oil Producers

NPN News Bureau

WASHINGTON—On the basis of well depths in Illinois "where the physical producing conditions warrant", producers apparently are to be granted more liberal exceptions to War Production Board's Conservation Order M-68.

These exceptions, which Office of Petroleum Co-ordinator will study for recommendation to WPB, fall into the following "approximate rules", says OPC:

Spacing Rules Listed

1—Five-acre surface spacing for sand reservoirs at a depth of 500 ft. or less.

2—Ten-acre surface spacing for depths greater than 500 ft. and less than 1500 ft.

3—Twenty-acre surface spacing for depths greater than 1500 ft. and less than 2500 ft.

Proximity of Illinois fields to important war industrial centers of Mid-West and East Coast is recognized, OPC says, adding that above "rules" for determining M-68 exceptions do not require an amendment, because the order as it now stands "provides for the approval of exceptions for entire pools and fields under certain circumstances".

Davies Explains Move

Moreover, Deputy Petroleum Co-ordinator Davies explains:

"In order to effect the most advantageous expenditure of the limited quantities of critical materials in terms of petroleum made available for the war program, the specific physical conditions and characteristics of each field and particular reservoir must be examined and each case considered on its own merits".

"It is preferable", he added, "that applications be prepared on a field-wide basis in order that full consideration may be given to a proper and orderly development program which will apply to all operators in any particular field."

Illinois operators are requested by OPC to remember the following when preparing M-68 exception requests:

Depth Controls Spacing

"1. Closer well spacing than the 40-acre general limitation of Order M-68 will be considered only for the development of sandstone oil reservoirs and not for limestone reservoirs in Illinois, except under unusual circumstances.

"2. The number of producing horizons existent in any field, the characteristics and productivity of the various separate sands, the available reserves, and the necessity for separate development as opposed to the possibilities of multiple completions, permitting the production of one or more reservoirs by the same well, are factors which will be considered in analyzing the need for closer well spacing in any particular field.

"3. Where conditions require closer well spacing than now permitted under the Order, the extent of the closer drilling that will be approved will be guided by the depth of the particular sand reservoir, in recognition of the fact that less material is expended in the development of shallow pools."

"The real problem confronting the Illinois operators is the discovery of new oil fields", Mr. Davies concluded, "rather than the denser development and accelebrated exhaustion of presently known fields."

Cole Committee to Hold 'Hot' Oil Law Hearings

NPN News Bureau

WASHINGTON — Cole oil committee plans to start hearings either on May 28 or June 2 on Sen. Connally's bill to make the "hot" oil law permanent.

Witnesses had not been definitely scheduled as of May 25, but it was thought Sen. Connally might make a brief statement in connection with the extension of the bill which is due to expire otherwise on June 30. An Interior Department representative is expected to testify.

Decision on exact date of the hearings is expected to be settled about May 28 when a 3-day session of the committee on petroleum problems is scheduled for completion.

Well Abandonment Clarified by OPC

NPN News Bureau

WASHINGTON—Courts and state regulatory bodies should not let provisions of Office of Petroleum Co-ordinator's Recommendation No. 47, which seeks to halt premature well abandonment, stop them from enjoining the operation of "illegally-drilled" oil or gas wells.

OPC thus clarifies its intention in an amendment to Recommendation 47 (*NPN April 29, p. 18*), which says, briefly, that to obtain maximum recovery, no oil or gas well should be abandoned "unless and until such well is incapable of yield-

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ing a sufficient production of oil or gas".

The amendment was approved by Assistant Attorney General Arnold and signed May 20 by Deputy Petroleum Co-ordinator Davies.

Specifically, the amendment says:

"The provisions (of Recommendation No. 47) . . . shall not affect the exercise of such discretion as the courts or the duly authorized regulatory body of any state may possess to enjoin the operation or compel the abandonment of illegally drilled oil or gas wells."

Regulatory Group to Meet

WASHINGTON — Next quarterly meeting of National Conference of Petroleum Regulatory Authorities is scheduled to be held here on June 4-5. Agenda has not been drawn up, an oil official said.

Well Abandonment Rule Up in Texas Court

Special to NPN

AUSTIN—Whether the OPC Recommendation No. 47 has the effect of an order and will replace state regulatory orders will be decided in a ruling District Judge Roy C. Archer has promised to make May 30.

Judge Archer said the recent recommendation that no well may be abandoned or plugged if its production is sufficient to pay operating expenses and taxes has been raised in several cases involving drilling injunctions, and for the purpose of settling this point this issue has been grouped from the several cases.

The question was originally raised in the Atlantic Refining Co. suit against M. E. Trapp and G. T. Blankenship, Oklahoma operators, and was raised again in the Magnolia Petroleum Co. vs. Estelle Oil Co. case now on trial in 126th District court.

New York State Gallonage Declines in March

Special to NPN

ALBANY — Taxable motor fuel sales in New York State dropped sharply during March compared with a year ago, Carroll E. Mealey, state tax commission president, has announced. March taxable gallonage was 123,457,042, a decline of nearly 10,000,000 gal. from last year's 133,435,395 gal. Total sales in March, including non-taxable sales, were 140,197,510 gal., 7,773,250 gal. less than a year ago.

Taxable sales at the end of the first quarter of 1942 were off more than 18,000,000 gal. compared with 1941's first quarter.

Data on Crude Oil Requested by OPA From Californians

NPN News Bureau

LOS ANGELES—A meeting of 93 representative California oil men was held in Los Angeles May 21 to form a working group to furnish the Office of Price Administration data to be used in showing the relationship of the price of crude to the amount available.

Decision to hold the meeting was reached after receipt of a letter from the OPA to E. E. Pyles, chairman of the production committee of District 5, which outlined the information considered necessary by the OPA "in any consideration of prices for California heavy crude."

W. H. Morgan of the R. R. Bush Oil Co. was elected as chairman of the "working group" of 28. Other personnel have not been announced as yet. However, the committee was elected by the operators in four groups of seven each: The so-called major companies, principal minor companies, other independents, and at-large group.

Data OPA Wants

Information sought by the OPA and expected to be furnished through the industry committee is:

"1—Heavy and light crude production by fields for past three years.

"2—Actual present potential production of heavy crudes by fields. If all wells producing heavy crude were pumped or allowed to flow to capacity, what would be the production thus obtained and how long could such production rate be maintained?

"3—Number of heavy crude wells shut in which may be reworked and put on production. How much actual production may be obtained from such wells? How many of these wells have been stripped of tubing and rods?

"4—If new drilling is required, how much proven acreage available and what production per well could be expected?

"5—How much material will be required on shut-in wells? Used or new—is this available? For the new wells, if any, some assurance that the necessary material and equipment is available.

"6—An accurate estimate of present and future needs of heavy crudes—covering all military, naval and lend-lease needs plus essential civilian demand. This information may be difficult for the producer to obtain, in which case it might be well to enlist the aid of the Petroleum Co-ordinator's Office.

"7—We should have accurate cost estimates for the program for increased production both for re-conditioning of old wells and drilling of new wells. If increased operating costs are expected, the reasons for such increases should be explained in detail."

More Authorities Laud Ickes' Stand On Oil Regulation

CLEVELAND — Additional letters of comment on Petroleum Co-ordinator Ickes' recently-expressed views regarding state authority over oil production have been received by NPN from various state oil conservation experts. The letters follow:

Austin B. Middleton, chairman of Board of Railroad Commissioners at Helena, Montana.

May 8, 1942

Editor, NPN:

In reply to your letter of the 27th instant, accompanied by a copy of your editorial commending Petroleum Co-ordinator Ickes, wish to state that I heartily concur in your expression and share your hope that you have not misinterpreted Ickes' recent statements to the state regulatory bodies.

While this is not the time to engage in the practice of playing State against Federal authority and Federal against State authority, I do believe that the principle of State conservation as against Federal conservation is the most desirable, and an editorial expression like yours cannot but help bring about a closer and more open relation between the whole oil industry and Mr. Ickes and his staff.

Sincerely yours,
Austin B. Middleton, Chairman

* * *

Frank Buttram, president of Independent Petroleum Assn. of America:

May 5, 1942

Editor, NPN:

I thank you for your thoughtfulness in sending to me your "good word" for Mr. Ickes and also your comment upon the synthetic rubber situation. I believe that it is important that not only the petroleum industry but the general public as well should know all the facts about the activities of the petroleum industry today.

As you are aware, I hold no brief for the major oil companies. I have been very free in my criticism of them when they have deserved criticism. I expect to continue to criticize whenever I believe they are wrong. On the other hand, I cannot approve any unjustified attacks which may be made upon them by any person whether in an official position or in a private one. It seems to me, judging solely from the record, that the facts demonstrate that the present rubber shortage cannot be attributed to any deal by which any American company subordinated its efforts to any German concern. On the contrary, it appears to me that we are in a better position today because an American company did obtain a formula which it developed and has made accessible to any who might be able to use it.

It is unfortunate, however, that there is no provision made for supervision of international activities of American corporations. There are times when these activities acquire an importance equal or possibly even greater than the activities of the State Department. While international trade is an important phase of our international relationships, this should not be permitted to be carried on as purely private enterprises.

The public interest and, equally, the immediate private interests of the firms concerned, might be promoted if activities involving foreign trade, especially when that trade is on a large scale, were made as public as the political relationships between this country and other countries.

Much of the misunderstandings which are now involving many of the large corporations in this country which have engaged in international trade, might have been avoided if these relationships had been as open and as public as transactions within this country.

The petroleum industry as a whole, including the large as well as the small units, appear to be in serious need of interpretation to the public.

Very truly yours,
Frank Buttram

* * *

Jerry Sadler, member of Texas Railroad Commission:

May 4, 1942

Editor, NPN:

I have read with interest your editorial enclosed with your letter of April 27 relative to statements made by Co-ordinator Ickes at the National Conference of Regulatory Authorities.

You hit the nail on the head in this editorial, and I think it was very timely.

When I can be of assistance to you, please feel free to call on me.

Sincerely yours,
Jerry Sadler

* * *

William J. Armstrong, commissioner, Corporation Commission of Oklahoma, Oklahoma City:

May 2, 1942

Editor, NPN:

I appreciate your letter of April 27 enclosing me a copy of your editorial in the National Petroleum News issue of April 29, 1942.

I read this editorial very carefully and I agree with you in every respect. We are exceedingly happy to see Mr. Ickes take this position. It will do a great deal to establish confidence and cooperation in the oil industry in this emergency. I feel that local state government can best handle the conservation program. I also feel the best way to prove that and to prove our worthiness to continue this work after the war is to give 100 per cent cooperation to the federal co-ordinator. That is what this Commission is doing and we are very happy that the Co-ordinator has given us this opportunity.

Again thanking you for your letter, I am

Sincerely yours,
Wm. J. Armstrong

Big Frog...LITTLE POND

The oil jobber is a big frog in a little pond . . . a power in his community. He can sit down with his dealers and personnel individually. He is the liaison officer between manufacturer and consumer. Which *way* he jumps depends on him. But how *far* he jumps depends a great deal on the products he sells.

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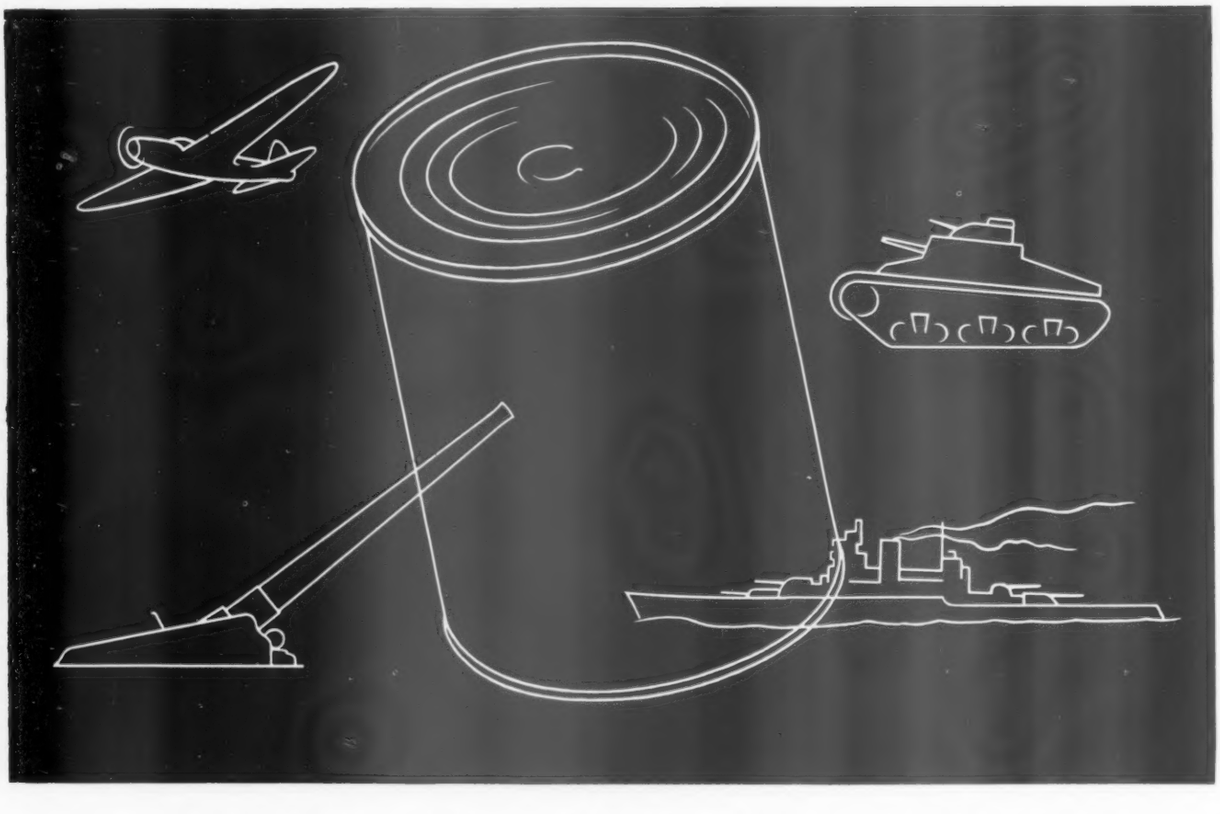

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Oil TRANSPORTATION

Shift in Oil's Transport Pattern Shapes Up As New Plans are Mapped to Replace Tankers

NPN News Bureau

WASHINGTON—Pipelines hold the answer to whether or not the industry, in co-operation with the Office of Petroleum Co-ordinator, can meet the East Coast's essential requirements of 1,367,000 bbls. of oil daily—without the use of any tankers.

Tank car shipments will reach 800,000 B/D soon, but with movement of armament and troops reaching a peak this fall, the average over the next 12 months will be about 675,000 B/D by rail to the East.

By June 1, there will be 60,000 tank cars in service to the East Coast; at present, there are 45,000. The Mid-West is now supplying 33,000 of these cars for eastern service; another 13,000 cars will be withdrawn from the Mid-West soon.

Transport tank trucks are making it possible for the Mid-West to release these tank cars without seriously disrupting oil transportation in that section.

However, if more rubber replacements are not earmarked for these tank trucks, another year will see them laid up. And then the tank cars will have to be returned.

OPC's pipeline program calls for the relocation and expansion of existing lines, using second-hand equipment, to provide an additional 200,000 B/D capacity to the East Coast. Of this, 80,000 B/D would be delivered directly to the seaboard by all-pipeline facilities, with the balance by combination with barge and rail.

To utilize barge transportation most efficiently, OPC aims at piping the oil as near to the Ohio River as possible (because of currents, barges are twice as efficient on the Ohio as on the Mississippi).

Without the 24-in. crude pipeline from East Texas to New York, however, the overland transportation program would be short 300,000 B/D of supplying the East Coast's minimum essential requirements.

Pictured by Parten

Such was the outline of overland transportation plans presented to Congressional committees May 20, 21 and 22, by Major J. R. Parten, OPC's transportation director.

Major Parten did not discuss how much oil might be delivered to the East Coast by properly-convoyed tankers. Indeed, he said that the only premise that the industry could go on was that sinkings and diversions to military service would account for all of the industry's tankers.

Tells Pipeline Progress

Major Parten also reviewed in detail the 9-point pipeline program covered in OPC's Recommendation No. 49. (*NPN May 13, p. 8.*)

Two of these projects have been shelved for the time being, Major Parten revealed.

One (Project No. 8) was the line from Tinsley Field (Mississippi) to move crude to the Mississippi river at Memphis. The other project dropped for the present (No. 6) was a 20-in. products line of new steel from east Texas to Salem, Ill., thence eastward to western Pennsylvania.

By June 1, it is expected that looping existing crude lines from Texas north and east, then linking the Buckeye line to the reversed Tuscarora line across Pennsylvania, will deliver an additional 25,000 B/D of crude to eastern refineries, Major Parten explained.

The Tuscarora line (now being reversed) was a products line, flowing westward up to April 29, according to the OPC transportation director.

The Sun-Susquehanna products line was also flowing westward up to April 29, he said. Now, it is planned to link this line with Shell-Sohio gasoline pipelines by building a 150-mile section between Fostoria and Akron in Ohio. This will deliver about 10,000 B/D of products to the East Coast via the reversed Sun-Susquehanna line, Major Parten said.

The other cross-Pennsylvania products line, the Keystone system which has been reversed part way, is now moving about 175,000 gal. of products eastward daily as far as Harrisburg. However, as soon as sufficient crude has been accumulated at Pittsburgh, the Keystone line will be converted to hauling 20,000 B/D of crude.

Building of a 60,000 B/D products line from Beaumont, Tex., to Baton Rouge, La., is "well under way now," Major Parten said. Baton Rouge is the western terminus of the Plantation pipeline. When completed, it will supply more products for this line and also release a number of barges and towboats which now make the run from Gulf Coast refineries to Baton Rouge via the Intracoastal canal and the Mississippi River.

Plantation line is now operating at about its present capacity—60,000 B/D. Additional pumping equipment to bring Plantation's capacity up to 90,000 B/D and also extend it to near Norfolk, Va., is part of the pipeline program.

Another pipeline project (No. 7) tieing in with barge movement is the conversion and reversal of a 12-in. crude line, now running from east Texas to Houston, and building a combination 12-in. and 14-in. line from east Texas to Paducah, Ky. This would lay down on the Ohio River approximately 75,000 B/D of products.

Another project shortening the barge haul to the East Coast calls for reversal of two 8-in. lines now running from Port Arthur, Tex., to Shreveport, La., and El Dorado, Ark., respectively. Then building a 10-in. line from El Dorado to the Mississippi River at Heiena, Ark.

East Coast's New Lifelines for Oil

Severe dislocations of the East Coast's normal tanker lifeline for oil brings to that area the necessity of getting its supplies almost exclusively by overland movement. To supply the East, in addition to heavy rail hauls, OPC plans several pipeline projects consisting of reversals, conversions, extensions and use of existing lines (black arrows indicate general routes), and proposes two new lines to be constructed of both new and used pipe (broken arrows). In addition, move is on for deepening of part of existing intracoastal canals (cross hatch); digging a new barge canal across Florida and an extension of the waterway from Corpus Christi to Port Isabel (broken cross hatch lines)

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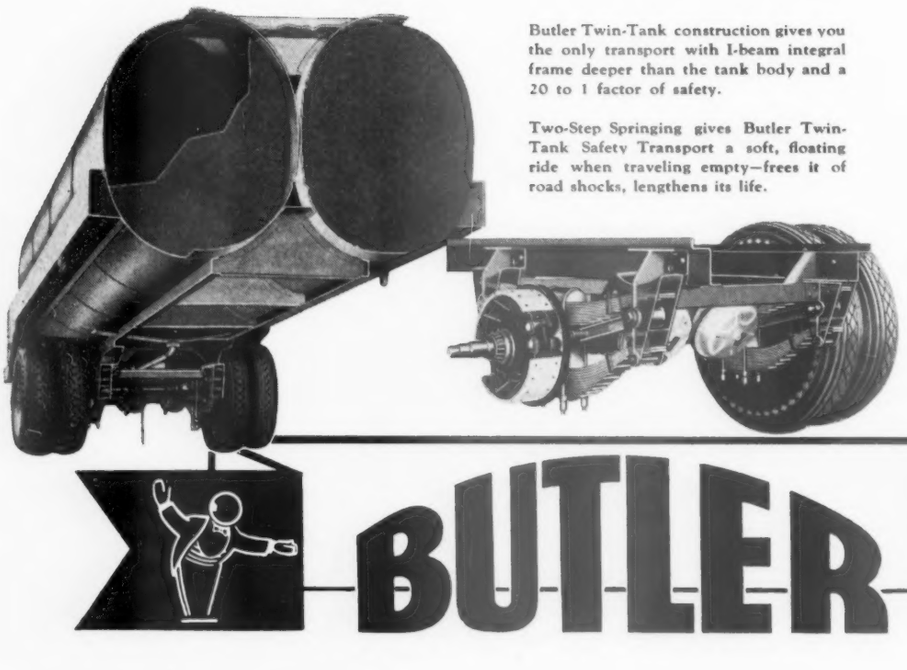

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TANK *Safety* TRANSPORT

ODT Divides U.S. Into 13 Regions For Oil Trucking

NPN News Bureau

WASHINGTON—The country has been divided into 13 regions by the Petroleum Carriers Section of ODT's motor transport division—presumably for the organizing of regional advisory committees, such as has just been done in the East Coast area.

These regions, and the states included in each, follow:

Region 1—(New England) Maine, Vermont, New Hampshire, Massachusetts, Connecticut and Rhode Island.

Region 2—(North Middle Atlantic) New York, New Jersey and Pennsylvania.

Region 3—(South Middle Atlantic) Delaware, Maryland, Virginia and West Virginia.

Region 4—(Southeast) North and South Carolina, Georgia and Florida.

Outside of District 1

Region 5—Alabama, Mississippi, Tennessee and Kentucky.

Region 6—Ohio, Indiana, Illinois, Michigan and Wisconsin.

Region 7—North and South Dakota, Nebraska, Iowa and Minnesota.

Region 8—Kansas, Oklahoma and Missouri.

Region 9—Texas, Arkansas and Louisiana.

Region 10 — Wyoming, Colorado, New Mexico and eastern portion of Montana.

Region 11—Utah, Idaho and western portion of Montana (with extension of the western Wyoming boundary northward as the dividing line).

Region 12 — California, Arizona and Nevada.

Region 13—Oregon and Washington.

* * *

ODT Organizes Eastern Oil Truckers To Achieve 130-Hour Week Operation

NPN News Bureau

WASHINGTON — Organization of all types of petroleum transporters—for-hire and private carriers—all along the Eastern seaboard is nearing completion.

State and regional groups have been set up in the East to co-operate with Office of Defense Transportation in attaining objective of 130-hour week operation of all transport tank trucks and replacing tank cars with trucks on all short hauls. This may be the forerunner of similar advisory groups in other sections of the country.

Meeting in Philadelphia on May 25, the chairmen and vice-chairmen of the 4 regional advisory committees will organize an overall group, with an executive secretary, to handle matters for the 17 eastern and southern states in District 1.

Committees Representative

In setting up advisory committees in each state, John L. Rogers, ODT's motor transport chief, gave instructions that the groups should be completely representative of all types of oil truckers. As a result, the state committees include not only representatives of common carriers, contract carriers and private carriers but the private carriers (oil companies hauling in their own trucks) are divided among major oil companies and independent oil jobbers.

Setting up of the advisory groups was an outgrowth of the meeting May 1 at Charlotte, N. C. (*NPN May 6, p. 21*). At that meeting also first steps were taken to organize a co-operative trucking organization—a common carrier—to which all truck operators, for-hire and private carriers, would lease their "idle" trucks. This organization was chartered in South Carolina under the name War Emergency Co-operative Assn. and is headed by L. A. Odom, Spartanburg, S. C., oil jobber (*see latest details in a dispatch to NPN from Spartanburg, P. 00*).

Whether similar joint truck-

(*Continued on page 37*)

Build Big Crude Line, Sen. Maloney Urges

NPN News Bureau

WASHINGTON — Whatever the material necessary—steel or concrete—to build the much-talked-about 1580-mile crude line from Longview, Tex., to the New York-Philadelphia areas, Sen. Maloney, Conn., says this line should get it.

He made this statement before the Senate Commerce's Rivers and Harbors Subcommittee May 21, at which he told Admiral Land, war shipping administrator that had this line been built last fall, many tankers would not now be at the bottom of the sea.

Sen. Maloney is chairman of the Senate oil "shortage" investigating committee which probed the East Coast oil situation late last year.

Oil Truckers Band For 130-Hour Week In ODT's Region 6

NPN News Bureau

CHICAGO — Permanent advisory committees for Wisconsin, Illinois, Indiana, Ohio and Michigan—ODT Region 6—were established here May 19 to carry out Office of Defense Transportation's desire for minimum 130-hour per week operation of all tank trucks and transports in this 5-state area. Action was taken at meeting called by ODT's motor vehicle division and presided over by Sam F. Niness, chief of the petroleum transport section.

Addressing the meeting, Mr. Niness suggested 3 possible methods of accomplishing maximum utilization of all oil trucking equipment as follows:

1—Establish committees empowered to work out effective plans, subject to ODT approval, and carry out the program under supervision of these committees;

2—Form a corporation and pool all equipment — private, common and jobber equipment; (this was done in the Carolina-Georgia-Florida area at a similar meeting held May 1 at Charlotte, N. C. *See NPN May 6, p. 21*).

3—Give up and let ODT take over the trucks.

Plainly, ODT meant business. You do it, or we will was plainly the threat. Accordingly, the assembled truckers elected the first proposal, naming a committee for each state, with the state chairmen and vice-chairmen to act as a regional, co-ordinating committee.

Leasing of Equipment

General belief was that the program would be carried out through interstate and intrastate carriers leasing equipment not enjoying interstate or intrastate rights and putting it to work. ODT indicated refusals on the part of owners to lease such equipment should be reported by the committees to Washington headquarters for possible issuance of mandatory orders.

Now, the committees, acting separately, are inventorying all oil trucking equipment in the 5 states. It is believed a limit of 2000-gal. capacity will be set, exempting trucks under this size, and placing trucks of larger capacity on the "must" list for minimum 130-hour week operation.

Committee members appointed follow:

Michigan: Myron Ogden, Port Huron, Ogden & Moffett, chairman; J. C. Neil, Lansing, Petroleum Transport, Inc., vice-chairman; Lester A. Smith, Detroit, Lester Smith & Co.; D. E. Daggitt, Benton Harbor, Pyramid Oil Co.; Harold Wagoner, Muskegon; I. R. Schiff, Detroit, Aurora Gasoline Co.; I. B. Dworman, Detroit, Red Indian Oil Co.

Illinois: Howard Willett, Jr., Chicago, The Willett Co.; chairman; James A. Hannah, Chicago, Jas. A. Hannah Motor Truck Service, vice-chairman; W. F. Murdy, Chicago, The Texas Co.; Fred Schaeffer, Forest Park, Arrow Petroleum Co.; J. R. Taylor, Chicago, W. H. Barber Co.; Leo Huff, Chicago, Pure Oil; R. F. Doetel, Chicago, Braun Brothers Oil Co.

Indiana: C. R. Davis, Whiting, Sprout & Davis, Inc., chairman; George Lilly, Indianapolis, Vortex Petroleum Co., vice-chairman; O. E. Bugh, South Bend, Gafill Oil Co.; L. E. Kincannon, Indianapolis, Rock Island Refining Corp.; C. D. Ward, Indianapolis, Refiners Transport, Inc.

Ohio: C. B. Wilhelmy, Columbus, Ohio Delivery, Inc., chairman; F. J. Egner, Galion, F. J. Egner & Son, Inc., vice-chairman; E. E. Ball, Cleveland, Ohio Standard; John W. Schultz, Galena, Fast Freight, Inc.; A. L. Kearns, Toledo, Brown Avenue Transportation Co.; Robert Andrews, Dover, Strawn Trucking Co.; W. H. Ford, Coal Grove, Ford Brothers.

Wisconsin: John F. Murphy, Madison, Petroleum Transport, Inc., chairman; M. Michelbook, Menomonie, Michelbook Service Co., vice-chairman; Ray Light, Green Bay, Light Transfer and Storage Co.; Jack Williams, Milwaukee, Hillside Transit Co.; George Kirt, Sheboygan, Haupt Oil Transport Co.

ODT Order Relaxes Car Routing Rules

NPN News Bureau

WASHINGTON — Tank cars need not be routed over the shortest available published rail tariff route which is used by Office of Defense Transportation in determining whether permits are necessary for tank car movements.

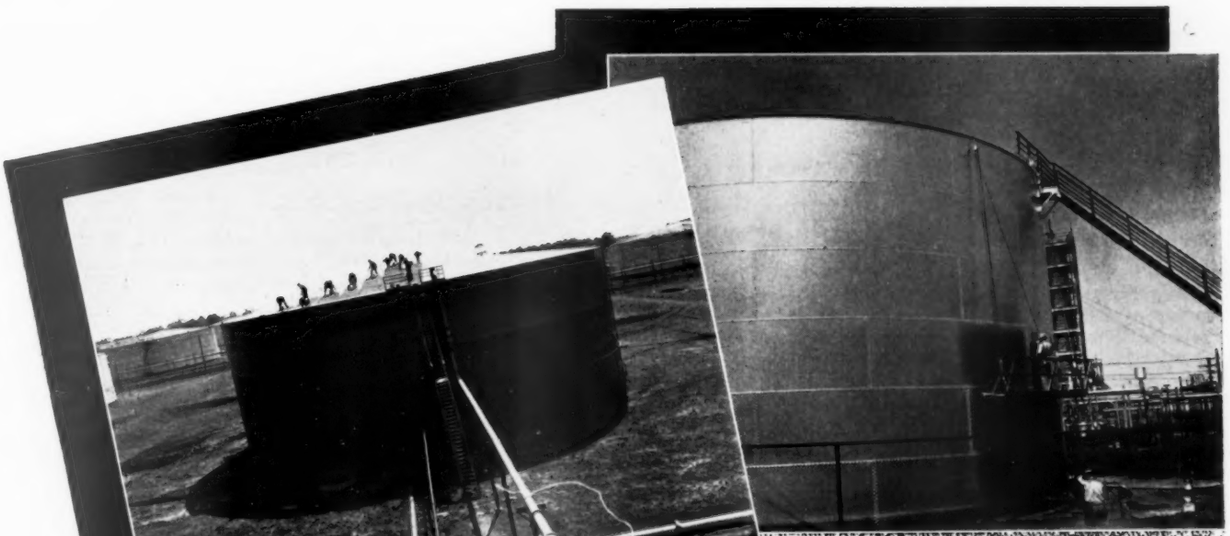
ODT General Order No. 7 said special or general permits are to be obtained for tank car shipments, but ODT Exception Order No. 7-1 said this provision did not apply to tank car shipments over 100 miles as measured by the shortest available published rail tariff route.

But on May 19, ODT issued Amendment No. 1 to 7-1, making it clear that it was not necessary to use the shortest route.

Change Listed

The change was made in subparagraph (c), 520.41. Following is the subparagraph with new words italicized:

"(c) Of any commodity billed to a destination over one hundred (100) miles from a shipping point, measured by the shortest available published rail tariff route, *whether billed or transported over such route or otherwise.*"



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Southeastern Truck 'Co-op' Starts Operations July 1

Special to NPN

SPARTANBURG, S. C.—Filing of over-all group insurance rates and publication of payload percentage deduction fees to be taken for operating expenses—plus general approval of these terms by Office of Defense Transportation—is all that is awaited by War Emergency Co-operative Assn. to place between 40 and 60 halted and other partially idle truck equipment in the Carolinas, Georgia and Florida on the highways under 130-hour or better work-week schedules.

Interstate Commerce Commission has granted—pending these conditions—blanket franchise to all transporters in the 4-state association to operate as common carriers, availing themselves of proportionate tariff rates at pipeline terminals until December 31, 1944, or until association is dissolved by reason of termination of the war (ICC, No. MC-103677-TA, May 14).

Officers Elected

W.E.C.A. met in Atlanta May 15 at the call of John L. Rogers, director, motor transport division, ODT, elected permanent officers, retaining L. A. Odom, Spartanburg jobber, as president, adopted association by-laws, and received the praise of Sam F. Niness, chief, petroleum section, motor transport division, ODT, for "paving one bridge on the road to victory". Nearly 500 transporters were present.

In addition to Mr. Odom, officers elected for a one-year term were: D. W. Royster, Shelby, N. C., vice-president; and W. C. Hamrick, Gaffney, S. C., secretary-treasurer.

Decision was that directors would be chosen according to membership averages in the 4-state area, rather than two directors per state, proposed when association was formed in Charlotte, N. C., May 1 (*NPN May 6, p. 21*) and under new standards South Carolina was allotted 4 directors; North Carolina 2; Georgia, 2; and Florida, 1—these to include all officers. They are: South Carolina—Mr. Odom and G. L. Hughes, Spartanburg; Mr. Hamrick, Gaffney; T. B. Gibson, Charleston; North Carolina—Mr. Royster, Shelby; L. F. Abernathy, Asheville; Georgia—J. A. Hall, Macon; M. J. Baggett, Atlanta; Florida—N. A. Pillars, Jacksonville.

Directors immediately adopted by-laws and set up offices in Spartanburg with R. E. Littlejohn, Jr., former Carolinas' tank truck salesman, as general manager.

Decision was made against outright lease of trucks by W.E.C.A. Instead, proportionate fees determined by volume of business done will be established to pay office and operating expenses and salaries of Secretary-Treasurer Hamrick and Manager Littlejohn. Fee estimates are now 2% minimum and 10% maximum on gross payload receipts.

W.E.C.A. will "book" hauls for transporters, owners retaining all rights to operate on prescribed routes with their own drivers, at their own expense.

Member trucks will roll not later than June 1, according to Mr. Odom. Main hauls will be made from Southeastern Pipe Lines' terminals at Macon and Atlanta, Ga., and the Florida pipeline at St. Joe, with all trucks ready to serve the 4 states from Plantation Pipe Line outlets in the Carolinas and Georgia upon order. To date there is no status on Plantation demands.

The association has faced some difficulty in establishing "cover-all" insurance, but policy is expected to be obtained this week. Discussed are premiums 2½% on gross receipts which would give members the advantage of paying insurance only for the time their trucks are in actual use.

Rail Haul to East Rises 32,400 Bbls.

NPN News Bureau

WASHINGTON — Tank car shipments to the East Coast and Pacific Northwest reached new high for week ending May 16, Office of Petroleum Co-ordinator reports.

Total of 684,482 bbls. daily were shipped into the East Coast with 29,636 bbls. daily moving to the Northwest. This compares with 652,082 bbls. daily to the East Coast and 28,480 bbls. daily to Northwest for week ending May 9.

The 26 participating companies, moving oil to East Coast, reported using 21,295 cars.

Companies moving crude and its products to East Coast, and number of cars shipped were:

Allied Oil—13; American Mineral Spirits—140; Arkansas Fuel—191; Ashland Refining—112; Asiatic Petroleum—145; Atlantic Refining—2669; Jas. B. Berry Sons—7; Canfield—1; Chalmette Petroleum—19; Cities Service—740; Conoco—243; Crown Central—39; Gulf—1620; Hartol—118; Pan-American—1190; Petrol Corp.—419; Petroleum Heat & Power—52; Pure—247; Shell—955; Sinclair—1792; Socony-Vacuum—2453; Kentucky Standard—74; New Jersey Standard—4627; Sun—1359; Texaco—1592; and Tide Water—478.

Companies shipping to the Northwest were:

General Petroleum—56; Richfield—74; Shell—233; California Standard—350; Texaco—56; Tide Water—77 and Union Oil—76.

U.S. Will Absorb Extra War Costs Of Tanker Hauls

NPN News Bureau

WASHINGTON — Government plans to pay *all* wartime costs of moving crude petroleum and products by vessel into the U. S. and between coastal and tidewater points in the U. S. which are over and above the basic maximum charter rates, established by the U. S. Maritime Commission on June 20, 1942, or in effect on that date.

This "underwriting" will be retroactive to the effective date, April 20 (or subsequent thereto) when the War Shipping Administration requisitioned or chartered the individual vessels, according to a joint announcement by WSA and Office of Price Administration on May 20.

But it applies only to shipments in tankers in excess of 3000 gross tons requisitioned by or under charter to the WSA, it was emphasized.

There are several tankers smaller than 3000 tons, however, which are believed to be still engaged in coastwise or Gulf trade.

Effective April 20

While this "subsidy" plan applies to the remaining tanker movement, if any, on the East Coast and the Pacific Coast, it apparently does not contemplate reimbursing boat owners or charterers for added wartime costs prior to April 20.

Estimates were that war risk costs for tankers in East Coast service alone were causing the oil companies to absorb—under OPA's price "ceilings"—added costs at the rate of $200,000,000 a year.

The WSA-OPA announcement did not refer to the plan as a "subsidy" but talked of it as a "government-aid plan" which would bring down sharply the "war-inflated costs" of shipping by tanker.

Ashland Towboat Makes Maiden Trip

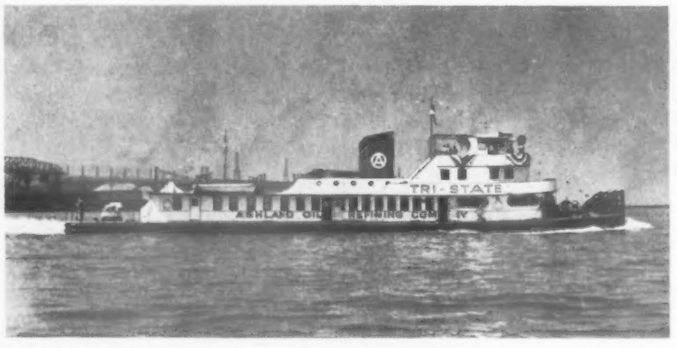
Special to NPN

ASHLAND, Ky.—Fifth and newest towboat of Ashland Oil and Refining Co.—the MV Tri-State—arrived May 16 at Ashland, Ky., with a cargo of crude oil on her maiden voyage.

This new towboat, said by the company to be one of the largest and most powerful on the Mississippi and Ohio rivers, is a sister ship of the M V Paul Blazer, is capable of moving cargoes of more than 3,200,000 gal. at a time.

Ashland Oil points out that while this boat is intended primarily to bring crude oil from Memphis, Tenn., and other points along the Mississippi, it releases several hundred tank cars from crude oil service to the Atlantic seaboard.

The towboat is Diesel propelled and equipment provides for a crew of 16 and cabins and bathrooms for 8 passengers.



Ashland Oil's new towboat the MV Tri-State can move a cargo of over 3,200,000 gal. at one time

Under a Ceiling of Stars

OVER THE SEA, under the stars, go mighty planes of war . . . American boys ferrying bombers to Britain, keeping America's promise to her Allies.

These ships, built by us, flown by our boys, and lubricated by our choice motor oils, are *fit to fight when they land*. That is tribute to the planes themselves, to the men who fly them . . . and to their motor oils.

★ ★ ★

Today vast quantities of Pennsylvania Motor Oils are required for war, because these oils will take punishment. They give safe and lasting lubrication. They can always be trusted.

Pennsylvania Motor Oils have gone to war . . . yes, but they are available on the home front, too. We have increased production, drawn on reserves. We are doing our best to keep dealers supplied so that dependable Pennsylvania Motor Oils will be available for all necessary driving.

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OIL IS AMMUNITION — USE IT WISELY !

Council Promises Uniform Statutes Governing Trucks

NPN News Bureau

WASHINGTON — Uniform state laws for truck sizes and weights have been pledged by the executive committee of the Council of State Governments in a meeting here May 20 with federal officials.

June 1 is the deadline for compliance and if nothing is done by then—that is, if any state cannot or will not take action—the council is to recommend that President Roosevelt issue a proclamation under his war powers to put the recommended weight-size standards into effect. These standards are to remain in force for the war's duration.

Governors Have Power?

Gov. Stassen, Minn., said he thought majority of state governors have sufficient executive power to establish uniform trucking regulations without calling special legislative sessions.

The minimum standards sought for uniform sizes and weights were recommended by Public Roads Administrator Thomas H. McDonald at the May 5-7 trade barrier conference here (*NPN May 13, p. 26*).

Prompt action against state barriers was demanded by Under Secretary of War Patterson to speed war time truck movements of critical materials.

Reciprocity Pledged

The governors' executive committee also pledged granting complete reciprocity for all interstate truck movements for war purposes. On this point, Secretary Patterson told of a truck loaded with shipyard supplies, being detained at a Maine state line with authorities demanding a $500 license fee.

Frank Bane, executive director of the Council of State Governments, is to open Washington offices to co-operate with Secretary of Commerce Jones who heads the federal committee seeking to break down state trucking barriers.

Wisconsin Sets Up Rules on Trucking

Special to NPN

MADISON, Wis.—Rules and regulations governing interstate truck shipment of petroleum products to licensed Wisconsin wholesalers have been promulgated by state's treasurer, John M. Smith, in Bulletin 0010 to all licensed motor fuel wholesalers.

Regulations are as follows:

"1—Licensed wholesalers, who are located outside the state of Wisconsin, can ship in interstate commerce to Wisconsin licensed wholesalers tax free; that is pass the tax on to the licensed wholesaler. They will not be permitted to ship to service stations and others who are not licensed wholesalers in the state of Wisconsin.

"2—Refineries located outside the state of Wisconsin may ship only to licensed wholesalers in the state of Wisconsin. They will not be permitted to ship to the retail trade in Wisconsin.

"3—In all cases truck deliveries must be made to the bulk plants of the consignees.

"4—No split deliveries will be allowed . . . the entire load of petroleum products in the transport must be delivered to one wholesaler.

"5—The transport carrier will carry a copy of the manifest in addition to the bill-of-lading, for the benefit of the Inspection Department.

"6—This department will require a copy of the manifest, or a statement giving the same information as the manifest, to be sent either daily or weekly."

Status of refineries and marine terminals located in state is not changed, bulletin said, except they have privilege of using trucks of more than 2000-gal. capacity.

Ask Rail Revision On Crude Oil Rate In WTL Territory

Special to NPN

ST. LOUIS—Western Trunk Line Committee Application D-37-674 proposes to revise rates and minimum rates on crude oil, in tank cars, within WTL territory and also from Central Freight Assn. territory to WTL territory and between points in WTL territory and points in Southwestern Freight Bureau territory, including the New Orleans-Baton Rouge district as follows:

"(a) Where alternative rates are in effect, i.e., one subject to minimum carload weight of 74,000 lbs. and the other at a higher rate and at a lower minimum carload weight or subject to Rule 35, cancel the rate applicable to the 74,000 minimum weight;

"(b) Where only one rate is in effect subject to minimum carload weight of 74,000 lbs., cancel that rate and substitute therefor a rate that will reflect 115% of that rate subject to Rule 35;

"(c) With respect to rates from Central Freight Assn. territory to WTL northwest territory which are now subject to minimum carload weight of 74,000 lbs., cancel those rates and substitute therefor rates that will reflect 115% of those rates subject to Rule 35."

Application expires May 25.

Await ICC Decision on 'Heavy Oil' Rates

NPN News Bureau

TULSA—Shippers who requested lower rail rates on "heavy oils" be ordered by Interstate Commerce Commission on shipments from Mid-Continent into Western Trunk Line Territory now are awaiting transcript of the May 12-17 hearing at Kansas City before ICC Examiner W. A. Disque before filing briefs in the case.

Transcript is the court record of oral testimony at the hearing; briefs, generally filed within 30 days after receipt of transcript of testimony, will set forth complainant's contentions and allegations in written form.

Independent refiners demanded heavy oil rates be adjusted to a "reasonable" basis, in testimony at Chicago (*NPN March 25, p. 30*) and Kansas City, and pointed out that in many cases the rates on heavy oils are higher than on gasoline, a situation which had not existed—prior to the decision in ICC Docket 28106—for the past 25 years.

Seeks 80% Basis

Public Service Commission of North Dakota, one of the intervenors in the case, advocated a material reduction in rates for heavy oils, "in no case to exceed 80% of refined oil (gasoline) rates".

Representatives of Wyoming and Montana refiners insisted that any reductions permitted from Mid-Continent areas also apply from refineries in the mountain areas.

Suggestion was made by some complainants that a possible solution would be to include heavy oils in the crude pipeline tariffs, to be shipped through the crude pipelines to St. Louis and Chicago at the present rates for crude. Subsequent distribution would be by water up the Mississippi River and through the Great Lakes, and thus release all the tank cars formerly used for moving products to the East Coast. Assertion was made that crude pipelines could handle these commodities without interfering with present crude movement or without contaminating the burning oils.

Hit Multiple-Car Rates

Rails, in answer to protestants, claimed it would be more expensive to ship in multiple-car lots than in single-car lots for the reason that additional trains would have to be made up to handle large multiple-car shipments.

No indications as to direction of decision or when it would be handed down were made by ICC.

Oil Truck Loadings Dip

NPN News Bureau

WASHINGTON — Oil truck loading index for April 1942 showed a decrease of 4.08% under March figures, American Trucking Assn. reports. However, April loadings showed a 69.4% increase over the index figure for same month last year.

Petroleum tonnage hauled by for-hire truckers represented 7.3% of total tonnage of truckers reporting.

ICC CALENDAR On Oil Trucking

Inland Transport Corp. Common Carrier Application—No. MC-102540—On reconsideration, findings in prior report reversed, and public convenience and necessity found not to require operation by applicant as a common carrier by motor vehicle of gasoline, kerosine, and fuel oil, in bulk, in tank trucks, between Louisville and Covington, Ky., Cincinnati, West Cincinnati, and Cleves, Ohio, on the one hand, and points in Indiana, on the other, over irregular routes. Application denied.

* * *

Petroleum and Products from Pensacola, Fla. Fourth Section Application No. 19004 — Authority granted, on conditions, to establish and maintain rate on petroleum and petroleum products, in tank cars, from Pensacola, Fla., to Dothan, Ala., without observing the long-and-short-haul provision of section 4 of the Interstate Commerce Act.

* * *

Civic and Commerce Association, Inc., Montevideo, Minnesota, vs. Abilene & Southern Railway Company et al. No. 28606—Rates on petroleum products, in carloads, from Mid-Continent oil fields of Montevideo, Minn., not shown to be unreasonable or unduly prejudicial. Complaint dismissed.

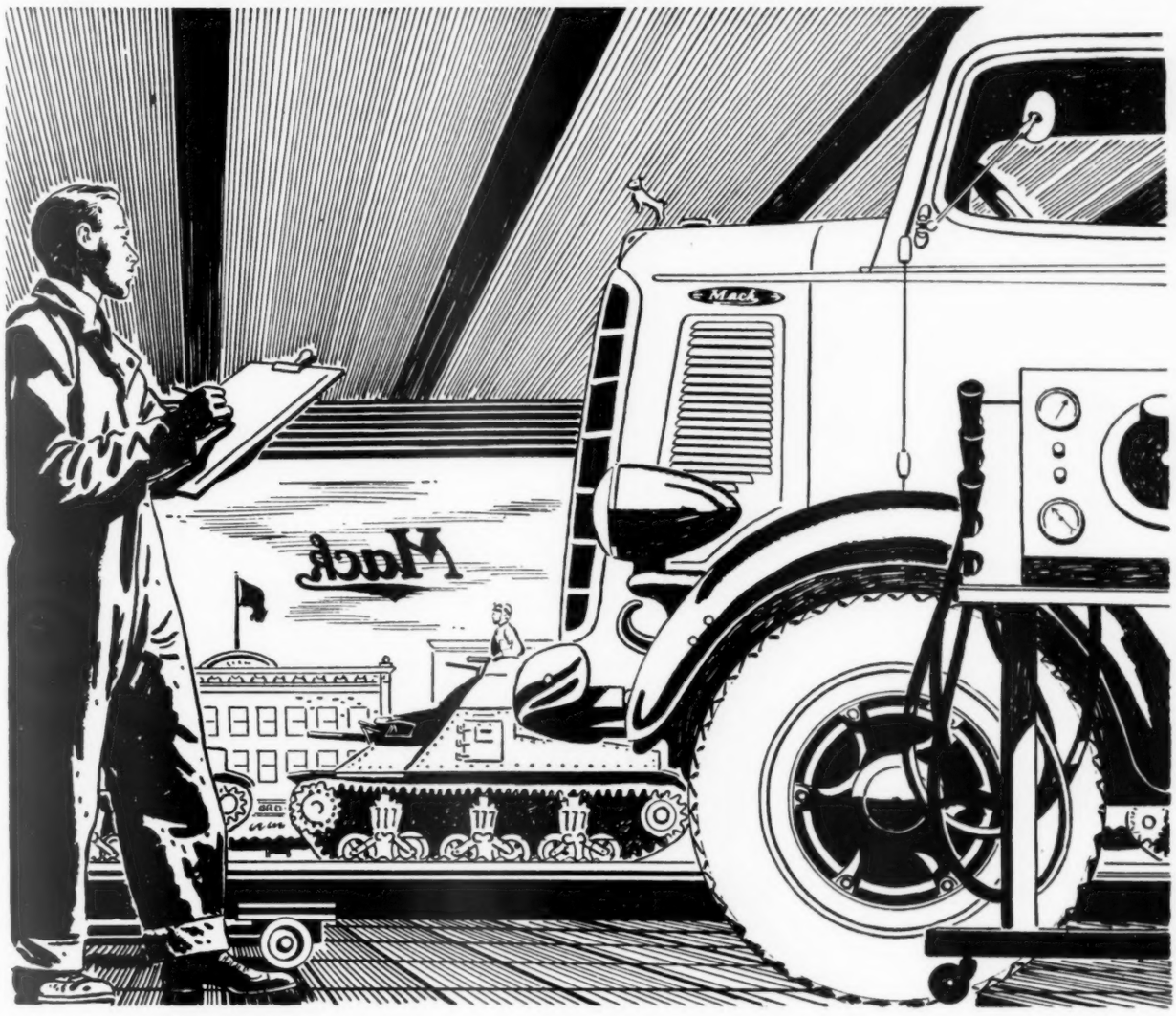
* * *

Harold C. Groendyke Extension—Texas Panhandle — No. MC-69419 (Sub.-No. 1)—1. Public convenience and necessity found to require operation by applicant, in interstate or foreign commerce, as a common carrier by motor vehicle, of petroleum products, in bulk, in tank trucks, from points in Texas, on and north of U. S. Highway 66 to points in Colorado and parts of Oklahoma, Kansas and New Mexico, over irregular routes, with no transportation for compensation on return. 2. Holding by applicant of a certificate and permit to the extent herein authorized found consistent with the public interest and with the national transportation policy. 3. Issuance of a certificate approved upon compliance by applicant with certain conditions and application in all other respects denied.

* * *

Bonded Freightways, Inc.—Extension — Wellsboro — No. MC-87266 (Sub.-No. 2)—Operation by applicant as a contract carrier by motor vehicle, in interstate or foreign commerce, of petroleum and petroleum products in bulk, in tank trucks, over irregular routes, between specified points in New York, Massachusetts, and Pennsylvania, found not consistent with the public interest and the national transportation policy. Application denied.

Every hour of lay-up time saved brings Victory a little closer . . .



A Message to Mack Owners on Truck Maintenance

It's going to be increasingly difficult to replace trucks during the critical days that lie ahead.

You who own Mack trucks have the advantage of the extra durability that's built into them. (That Macks *do* last longer is proved by figures which show that 7 out of every 10 Macks bought ten years ago are still in profitable use. *R. L. Polk survey, as published in Automotive News.*) But you can't hope to get the most out of your Macks unless you have them serviced promptly—regularly—at the nearest Mack factory branch or Mack dealer.

Consult your local Mack service manager for helpful, constructive advice on how best to conserve your truck equipment. Ask him about the Mack "Preventive Maintenance Plan," a practical system of periodic inspection and adjustment, which will save you money on repair bills—keep your trucks on the road for extra thousands of miles.

Remember, a truck is something more than a private investment in time of war. As a part of our vital transportation system, it is a public responsibility. Let us help you "keep 'em rolling."

MACK TRUCKS, INC., LONG ISLAND CITY, N. Y.

THE MOST COMPLETE LINE OF TRUCKS IN THE WORLD—
1 TO 45 TONS AND ALL HEAVY DUTY!

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Wartime Marketing MANAGEMENT ★ ★ ★

★ ★ ★ What the Nation's Oil Jobbers are Doing and Planning

EXACTLY what are oil marketers doing to more than just stay in business in the face of wartime restrictions?

Are marketers throwing in the sponge? Or are they going after new business and adjusting their operations to keep their P. and L. sheets on an even keel?

NPN wondered. So it wrote a few jobber friends. Replies were so enthusiastic that we sent out 2500 questionnaires to marketers all over the U. S. The response was terrific. Stacks of questionnaires and letters—many two or more pages long—are coming in every day. NPN's staff is studying them in preparation for a series of articles on what marketers are actually doing to overcome profit losses.

This week's article is devoted to a subject in which marketers expressed the greatest interest: personnel—how to find, train and keep help. Future articles will cover what marketers are doing to get farm business; credits and collections; new sales ideas; efficient bulk plant operation; the transportation situation and many other subjects.

Probably no bigger problem faces oil marketers today than that of personnel, particularly in service stations.

A letter from R. K. Shoolroy, president of Fair Price Stations, Wooster, Ohio, gives some thoughts of a successful operator of a chain. Mr. Shoolroy writes:

"In recruiting man power for our stations today, they must come in three classes:

"1. The 'under-age group', which is 16-19.

"2. The 'over-age group', which we normally set at 45 and up.

"3. The 'physical rejects of the Army and factories'.

"Discussing each of these groups briefly: from the 'under-age group' we get some excellent young men who work well under close supervision of a manager, but on whom we would not care to place the responsibility of operating the station. In handling this group, we have to arrange with school authorities so we will not be in violation of the laws pertaining to employment of boys of this group, due to the fact that some of the boys are interested in getting in the armed service; some of them are seeking more money in the factories, while with others our work is simply an interruption of their school work.

"The 'over-age group' from 45 years up occasionally offers a very good man—one who has been trained in the meeting of the public. However, an investigation of each applicant in this class will automatically disqualify at least four out of five. The principal disqualifications come from failure to meet the sobriety and honesty tests.

"The third group of men, which I have elected to call 'physical rejects' of the Army and factories, represents probably the most reliable group of men from which we can secure employes. Under ordinary circumstances we would not employ anyone who showed evidence of physical disability. However, we are waiving this objection during these times. With a decline in the quality of our manpower, we have found it necessary to advance our wages about 25% during the past two years.

"We still find it feasible to stick to our original policy of operating all stations on a payroll basis, and of confining our sales to gasoline, motor oil and lubrication."

'Trusts to the Almighty'

College Park Oil Co. of Atlanta, Ga., tells NPN that personnel in Atlanta *is* a problem and that the company "hires 'em and trusts to the Almighty to keep 'em".

A New England jobber within striking distance of the shipyards and war industries has had practically no trouble in keeping first and second line men, which includes managers and number one station attendants.

That jobber is the Pineland Oil Co. of Waterville, Me. John Ware of that company, telling NPN about operations, writes on the subject of personnel:

Has a Bonus System

"While it is true that we have had an increasing turn-over with some of our third line men, we have been very fortunate in having practically no changes in our first and second line men, which includes managers and number one station attendants. Located as we are within striking distance of the shipyards and war work industries of New England, we consider ourselves fortunite.

"Undoubtedly this is due to a policy of profit participation wherein all employes of six months participate at the end of the year through a bonus plan in the net profits of their own particular department.

"Wages themselves are not at all high, but participation in profits is generous and we believe this to be appealing to the better type of managers and assistants, feeling that it is satisfactory and pleasing to them.

NPN will gamble that R. D. Scotton, president of Scotton Oil Co., Portland, Conn., will keep his help though he doesn't tell us just how he will do it. Mr. Scotton writes in part:

'New England Yankees'

"New England Yankees do not lose any wars. So this plant is only interested in doing all it can to help win. To hell with profits; to hell with everything and everybody that has any other ideas. If the war department wants us to run this plant for peanuts, that's all right with us, so long as it helps to kill the damn Japs."

From New Mexico, the Ritter-Walker Co. of Lordsburg tells NPN it is making replacements with personnel over 45.

Many marketers are replacing help with men over 45 and the arrangement is proving satisfactory. Among those using the "oldsters" are: W. L. Heinz, Columbia, S. C.; Savage Oil Co., El Paso, Tex.; James T. Klepper, Wichita, Kans.; David Oil Co., Packwood, Ia.; R. E. Copeland, Stigler, Okla.; H. B. Melrose, Orlando, Fla.; Letteer Oil Co., Beavertown, Pa.; M. A. Bean, Moorefield, W. Va.; E. M. Pickens, Crescent City, Fla.; Harms Oil Co., Allison, Ia.; Talley Bros., Zanesville, Ohio; A. D. Dubisson, South Haven, Mich.; Independent Oil Co., Stuttgart, Ark.

Lawrence W. LaZier, Montclair, N. Y., writes that he anticipates the drop in gallonage in the curtailed area will keep pace with the loss of employes.

Lannius Bros., Monroe, Ga., are not worrying until September 1942, for the reason that they are using high school help.

Dubbert Oil Co., Laurens, Iowa, has an "Iowa personnel plan" that seems logical. This company employs farm boys for three days a week, thus permitting the boys to spend the balance of the time in farm and gardening work. By staggering the days, there is always help. In the same state, the Home Oil Co., Noville, is also developing young men. But Home Oil doesn't recommend this unless there is a good manager on the job.

Snappy high school boys are used by the Fischer Service Station in Winfield, Kans., with very good results, according to Jobber Fischer.

The Catawba Oil Co., Lancaster, S. C., has made a woman manager of one of its bulk plants, replacing a man in the service.

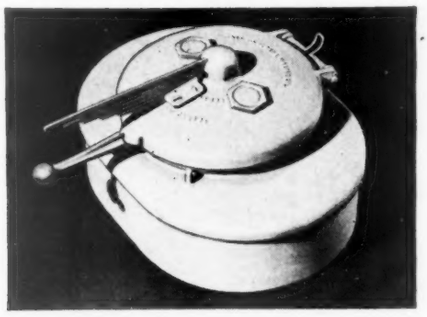
The Haering-Vance Oil Co., Hot Spring, Ark., gives this formula for

Wherever Your Truck Tank Is Built . . .

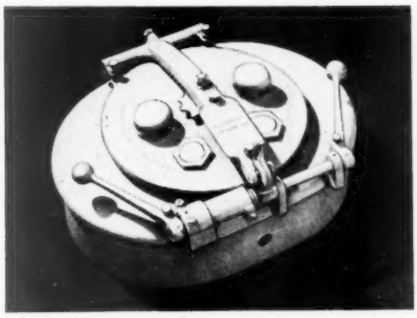
Remember To Specify Quick-Opening, Tight-Closing, Positive-Locking, Nationally-Used

"MANHOLES BY PHILADELPHIA VALVE"

Standard Manhole—Size 12" x 16" with 6½", 8", or 10" fill opening. A slight turn of locking ring opens and closes cover.



Standard Streamline Manhole—Similar to the standard manhole except provided with single handle locking ring and a streamlined wing.



Self-Closing Manhole—Size 12" x 16" with 10" fill opening. Self-closing with positive locking device. Opened by raising lever on either side.

Write the words "Manholes by Philadelphia Valve" into your order. Any tank builder can meet that specification without extra expense. These quick-opening manholes are absolutely tight. They surpass every fire underwriter's standard. They open and close easily and quickly. They are built to outlast the tank. They are standard with many major oil companies from coast to coast.

Whether the fill-plug is 6½", 8", or 10" in diameter, whether it is the standard type or self-closing, the cover is leak-proof, for a machined seat bears uniformly on the oil-proof gasket.

Each manhole is fitted with "5-in-1" vents which provide a free flow while tanks are emptying, automatically closing if the truck upsets, and they will also release under 6 lbs. pressure to prevent explosion in case of fire. In addition to the vents, every cover has fusible plugs that comply with all state and I.C.C. regulations.

Each type is simple, strong, and fool-proof. Covers and plugs are of malleable iron or heat-treated aluminum. No cast iron is used.

The standard type is self-adjusting for gasket wear and no mechanical adjustments are necessary to keep it tight. The self-closing cover is constructed with all moving parts of high-strength bronze or stainless steel so they will not rust tight or wear out. Adjustment for gasket wear can be made without use of tools; simply pull up on locking pin and turn the star wheel a notch or two.

For sizes, weights, measurements, and prices of manholes and other truck tank fittings, write for Bulletin No. 162

PHILADELPHIA VALVE COMPANY

ARAMINGO AVENUE AND ONTARIO STREET, PHILADELPHIA, PA.

PACIFIC COAST DISTRIBUTOR, OIL MARKETING EQUIPMENT CO., 325 FREMONT STREET, SAN FRANCISCO, CALIF.

ARMY TWILL BY REEVES SANFORIZED* MADE TO GOVERNMENT SPECIFICATIONS
REG. U.S. PAT. OFF.
REEVES Glengarrie POPLIN
Specify
REEVES FABRICS FOR WORK UNIFORMS
Due to large Government orders and the shortage of vat dyes, we can no longer promise Reeves ARMY TWILL and GLENGARRIE POPLIN for civilian use. For long-lasting work uniforms and matching shirts during the war, specify Reeves WARTIME TWILL and WARTIME POPLIN.
Except for the degree of color-fastness, these two sturdy fabrics have the same famous wearing qualities found in our regular lines now going to the Armed Forces. Both TWILL and POPLIN come in a range of popular shades and are Sanforized* against shrinkage.
*Fabric shrinkage not more than 1% (U.S. Government Test CCC-T-191-a)
See your nearest dealer for uniforms, sport and work clothes made from Reeves famous fabrics, or write for leaflet to:

OVER 60 million yards of Reeves Army Twill sold to the U.S. Army
REEVES BROTHERS, INC.
34 WORTH STREET NEW YORK CITY

keeping help: "Fair treatment and co-operative advertising; result a steady organization seldom leaving except for Army, and these are easily replaced because of the company's liberal policies."

Pension and bonus plans, proving very satisfactory, have been reported by Arthur J. DeBlois Oil Co., Pawtucket, R. I., and Hall-Ratterman Oil Co., Cincinnati.

Management Solves Problems

Management, says the C. E. Wemett & Co., Hemlock, N. J., is the answer to the personnel problem. "Work with them, keep them interested and on the job, and you will have no trouble".

The Taylor Oil Co., Somerville, N. J., is not going to be left flat at any rate, it tells NPN. This company delays pay day until 7 days after the time covered by the period involved, unless the operator gives a week's notice. This is understood by the helpers.

Girl attendants are being used to a greater extent. Reading between the lines of many communications, it seems that most marketers are not much in favor of using girl attendants. But where they are being used for various reasons, very satisfactory results are reported. Among marketers using or considering girls are: Orlo Uber, Glenwood City, Ia.; Brickert Oil Co., Farmville, Va.; Plymouth Oil Co., LeMars, Ia.; Gamble Stores, Minneapolis; J. F. Hendon, Birmingham, Ala.; Seneca Oil Co., Fostoria, Ohio; Dixon Oil Co., Dixon, Ill.; Newell Oil Co., Alpine, Tex.

CLEAN DRUMS
Inside (Side and End)
NO LIFTING
You can clean drums easily, quickly and thoroughly with this modern labor saving device. Cleans sides and ends without removing drum and without necessity of locking drum to frame. Ball bearing equipped and 4" drive wheels prevent denting of drum. Power supplied from light socket. Write for details.

Drum rolls over edge then tipped to cleaning position.
The VOL-U-METER Company
73 WILBURY PLACE BUFFALO, N. Y.

Have You an OIL BURNER PROBLEM ?

Mr. L. J. Whelan, head of the Oil Burner Department of the New York Technical Institute solves your oil burner problems in his new book, An OIL BURNER HANDBOOK.
In simple, every day language he teaches you how to preserve equipment by keeping it in the best condition, and how to conserve fuel by having the burner at maximum efficiency. Know how to repair and service oil burners and help Uncle Sam's program of conservation.
The chapters discuss in detail both domestic and industrial burners.
$2.50 Postpaid
National Petroleum News
1213 W. 3rd., Cleveland, Ohio
Enclosed find $2.50 for my copy of An OIL BURNER HAND BOOK by L. J. Whelan
Name .....
Address .....

TRADEMARKS

The following are trademark applications pertinent to our field pending in the United States Patent Office which have been passed for publication and are in line for early registration unless opposition is filed promptly. For further information address National Trade-Mark Company, Munsey Building, Washington, D. C., trademark specialists.

Circle lined for blue and red and word ATLANTIC, Ser. No. 448,887. The Atlantic Refining Co., Philadelphia, Pa. Filed Nov. 25, 1941. For gasoline. Published: May 19, 1942.

AMOCO in circle lined for red and black, Ser. No. 450,991, American Oil Co., Baltimore, Md. Filed Feb. 16, 1942. For gasoline, lubricating oils and greases. Published: May 19, 1942.

AMOCO in circle, Ser. No. 450,992, American Oil Co., Baltimore, Md. Filed Feb. 16, 1942. For gasoline, lubricating oils and greases. Published: May 19, 1942.

SUNOTEX, Ser. No. 451,125, Sun Oil Co., Philadelphia, Pa. Filed Feb. 20, 1942. For lubricating oils for textiles. Published: May 19, 1942.

Obey Rules, Farish Urges

NPN News Bureau

NEW YORK—W. S. Farish, president of Standard Oil Co. (N. J.) in a letter to company employes has urged them to "set an example of unselfish compliance with the regulations" with regard to gasoline rationing and to convert their home heating plants from oil to coal wherever possible.

Eastern Oil Truckers Organized by ODT

(*Continued from page* 28)

ing firm will be organized in other areas, depends on the truckers themselves, says ODT.

Meanwhile, the state and regional committees will be the means of keeping track of "idle" equipment and places where it can be used.

Membership Listed

Following is complete eastern list of regional state committees of tank truck operators, set up to co-operate with Office of Defense Transportation in obtaining maximum utilization of all trucks and replacement of tank cars with trucks on all short hauls, as supplied to NPN by T. F. Proctor, managing director of the petroleum transporters conference, American Trucking Assns., Inc.

Region No. 1 (New England)

F. P. Mutrie, Boston, P. B. Mutrie Motor Transportation, Inc., chairman; Peter H. Mortensen, Wethersfield, Conn., vice-chairman; Harold Kenny, Lewiston, Me., Robinson & Kenny; Ludwin Proulx, Epping, N. H., Prue Motor Transportation, Inc.; J. E. Faltin, Manchester, N. H., Faltin Transportation Co.; Leander G. Tait, Plaistow, N. H., City Oil Transportation; C. L. Stephanson, Bellows Falls, Vt., Stephanson Motor Transfer; R. L. Davis, Fair Haven, Vt., R. L. Davis Transportation Co.; Frank L. Roberts, Springfield, Mass., F. L. Roberts Co., Inc.; J. L. Collins, Taunton, Mass., Collins Transportation Co., Inc.; Ralph Worrall, Providence, R. I.; Francis Guyott, New Haven, Conn., Guyott Construction Co.; T. L. Preble, New York, Tidewater Associated Oil Co.; John A. Hassey, Boston, Cities Service Oil Co.; A. G. Anderson, New York, Socony-Vacuum Oil Co.; J. W. Shea, New York, Sinclair Refining Co.; Paul J. Goldstein, New Haven, Conn., Connecticut Petroleum Carriers Assn., Inc.; F. I. Hardy, Boston, Petroleum Haulers of New England, Inc.

Maine Subcommittee, Region No. 1—Harold Kenny, Lewiston, Me., Robinson & Kenny, chairman; Ludwin Proulx, Epping, N. H., Prue Motor Transportation, Inc., vice-chairman; Ray Shibley, Fairfield, Me.; Frank Smart, Bangor, Me., Weber Oil Co.

New Hampshire Subcommittee, Region No. 1—J. E. Faltin, Manchester, N. H., Faltin Transportation Co., chairman; Leander G. Tait, Plaistow, N. H., City Oil Transportation, vice-chairman; Morris Gellis, Claremont, N. H., Connecticut Valley Oil Co.; A. G. Anderson, New York, Socony-Vacuum Oil Co.; J. W. Shea, New York, Sinclair Refining Co.

Vermont Subcommittee, Region No. 1—C. L. Stephanson, Bellows Falls, Vt., Stephanson Motor Transfer, chairman; R. L. Davis, Fair Haven, Vt., R. L. Davis Transportation Co., vice-chairman; J. K. Wilkinson, Philadelphia, Atlantic Refining Co.

Massachusetts Subcommittee, Region No. 1—F. P. Mutrie, Boston, P. B. Mutrie Motor Transportation, Inc., chairman; Frank L. Roberts, Springfield, Mass., F. L. Roberts Co., Inc., vice-chairman; Alvin R. Holmes, Worcester, Mass., Petroleum Carriers Corp.; Jerome R. Sousa, Peabody, Mass., Sousa Transportation Co., Inc.; J. W. Appleyard, Methuen, Mass.; John A. Hassey, Boston, Cities Service Oil Co.; Mr. J. A. Knowton, Boston, Colonial Beacon Oil Co.

Rhode Island Subcommittee, Region No. 1—J. L. Collins, Taunton, Mass., Collins Transportation Co., Inc., chairman; Ralph Worrall, Providence, R. I., vice-chairman; John Reilly, Pawtucket, R. I., Kalleher &

Birtank Pressure Roofs

BIRTANKS—for Gasoline or Oil Storage

REALIZING the great saving to be effected by the storage of volatile oil products under pressure, the Standard Oil Company of Kentucky has used tanks designed for this purpose exclusively at eight of their terminals on the great Plantation Pipe Line system, one of which is shown above.

These tanks range in capacity from 10,000 barrels to 35,000 barrels. The Terminal handles kerosene, tractor fuel, burner oil and three grades of gasoline. While the tanks are of conventional appearance, they are unique in that THEY ARE DESIGNED TO OPERATE AT 1 LB. PRESSURE. Tremendous savings in evaporation losses are thereby realized, when compared with other forms of construction, which of necessity operate at lower pressures.

The Birtank pressure tank is the answer to your evaporation loss problems. For further information on this special form of construction, consult the Birmingham Tank Company, Birmingham, Alabama.

BIRMINGHAM TANK COMPANY

BIRMINGHAM—PITTSBURGH—NEW YORK—NEW ORLEANS—ATLANTA

Fabricators and Erectors of Tanks and General Plate Work—Structural Steel—Shipbuilding

1 TRUCK
+1 ROPER PUMP
DELIVERY ABILITY OF 2 TRUCKS

and pumps cost a lot less than trucks

Truck owners all over the world are saving time, money and equipment by using Roper Truck Pumps. One Roper-Equipped truck will do the work of two trucks that have no pump equipment so why not realize the greater profits and smaller investment savings that Roper Truck Pumps can give you?

The old-fashioned "Draw, Carry and Dump" method is wasteful because the buckets can be overfilled, tipped, and in many ways cause losses . . . the method is dangerous because spillage from the buckets increases the fire hazard. It also makes footing slippery and uncertain, often causing accidents and more waste . . . the method is expensive because you have to buy more trucks and tanks and spend more for upkeep and labor.

Roper Truck Pumps are easy to install, quick to start, easy to service.

ONLY ROPER GIVES YOU ALL OF THESE FEATURES:

- Only 2 Moving Parts
- Equal Size Pumping Gears
- Extra Large Bronze Bearings
- Self Lubricating
- Compact Design
- Larger Capacity
- Lower Power Consumption
- Always Primed
- Good Suction
- New Sleeve Type Relief Valve
- Fully Guaranteed

TRUCK ROPER PUMPS

GET ALL THE FACTS . . . WRITE FOR BULLETIN N278

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Mee; C. J. Meiser, Philadelphia, Sun Oil Co.; J. F. Shaal, Philadelphia, Atlantic Refining Co.

Connecticut Subcommittee, Region No. 1—Peter H. Mortensen, Wethersfield, Conn., chairman; Francis Guyott, New Haven, Conn., Guyott Construction Co., vice-chairman; Russ Patterson, Torrington, Conn., City Coal Co.; T. L. Preble, New York, Tide Water Associated Oil Co.; M. E. Nuttilla, New York, Cities Service Oil Co.

Region No. 2 (North Middle Atlantic) Committee

Emanuel Alboum, Lancaster, Pa., chairman; M. L. Wilcox, Downington, Pa., Leaman Transportation Co., vice-chairman; Martin Frasch, Syracuse, Owners Trucking Co.; W. H. Bennett, Buffalo, Frontier Fuel Oil Co.; Everett E. Marshall, Newfield, N. J., Marshall Service; H. R. Ritter, Belleville, N. J., H. R. Ritter Trucking Co.; Edward M. Gallagher, Philadelphia, Jos. M. Patterson & Son; F. P. Hufnagel, Philadelphia, Sun Oil Co.; J. F. Winchester, New York, Standard Oil Co. of N. J.

New York Subcommittee, Region No. 2—Martin Frasch, Syracuse, Owners Trucking Co., chairman; W. H. Bennett, Buffalo, Frontier Fuel Oil Co., vice-chairman; A. R. Gundry, Rochester, A. R. Gundry, Inc.; Gerson Frank, Syracuse, Bonded Freightways, Inc.; Frank Hillman, Fort Edward, Dairy Express Co.; Daniel J. McConnville, Ogdensburg, N. Y.; H. J. McBride, Goshen, N. Y., H. J. & F. McBride; Geo. O. Gumbs, Rockville Center, L. I., N. Y., D. E. Oil Burner & Fuel Corp.; A. G. Anderson, New York, Socony-Vacuum Oil Co.; J. W. Shea, New York, Sinclair Refining Co.

New Jersey Subcommittee, Region No. 2—Everett E. Marshall, Newfield, N. J., Marshall Service, chairman; H. R. Ritter, Belleville, N. J., H. R. Ritter Trucking Co., vice-chairman; Henry Gerdes, Upper Montclair, N. J., Henry Gerdes, Inc.; Earl Cotton, Paulsboro, N. J., Cotton Oil Co.; Ralph Kibery, Roselle, N. J., Kirbery Transportation Co.; Mr. Kowaski, Trenton, N. J.; Mr. Bennett, Kearney, N. J., Bennett Oil Co.; McElvan Oil Co., Florence, N. J.; J. F. Winchester, New York, Standard Oil Co. of N. J.; Larry Graff, New York, The Texas Co.

Pennsylvania Subcommittee, Region No. 2—Emanuel Alboun, Lancaster, Pa., Northland Petroleum Transport Co., chairman; M. L. Wilcox, Downington, Pa., Leaman Transportation Co., vice-chairman; R. A. Anderson, Rouseville, Pa., Clare M. Marshall; W. F. Crossett, Warren, Pa., W. F. Crossett, Inc.; M. Kovach, Scranton, Garrett Kovach; H. C. Gabler, Chambersburg, Pa.; Clarence Staats, Malvern, Pa.; H. R. Ringer, Confluence, Pa.; F. P. Hufnagel, Philadelphia, Sun Oil Co.; Gavin W. Laurie, Philadelphia, Atlantic Refining Co.

Region No. 3 (South Middle Atlantic) Committee

K. J. Eisenhardt, Baltimore, Coastal Tank Lines, Inc., chairman; W. C. Miller, Richmond, Miller Motor Line, Inc., vice-chairman; Jesse A. Harman, Dover, Del., Harman Oil Co.; Henry Wilson, Wilmington, Diamond Ice & Coal Co.; R. F. Kline, Frederick, Md.; R. M. O'Boyle, Washington, D. C., M. I. O'Boyle & Son; Warren C. Marshall, Upper Darby, Pa.; Fred Bannerst, Charleston, W. Va., Elk Refining Co.; Joe Hutchinson, Charleston, W. Va.; R. B. Willett, Roanoke, Va., Willett Bros. Transportation Co.; W. E. Baker, Baltimore, American Oil Co.; J. Miller Sherwood, Baltimore, Sherwood Bros.; J. W. Shea, New York, Sinclair Refining Co.; L. Huff, Philadelphia, Pure Oil Co.

Delaware Subcommittee, Region No. 3—Jesse A. Harman, Dover, Del., Harman Oil Co., chairman; Henry Wilson, Wilmington, Del., Diamond Ice & Coal Co., vice-chairman; H. H. Senger, Smyrna, Del.; W. G. Stoops, Philadelphia, Atlantic Refining Co.; J. W. Shea, New York, Sinclair Refining Co.

Maryland Subcommittee, Region No. 3—K. J. Eisenhardt, Baltimore, Coastal Tank Lines, Inc., chairman; R. F. Kline, Frederick, Md., vice-chairman; W. Reid, Baltimore,

General Refining Co.; DeVernie Matlack, Philadelphia, E. Brooke Matlack; Mr. Unger, Federalsburg, Md., Holt Oil Co.; Mr. Buckholtz, Cumberland, Md.; H. Lamotte Shipley, Westminster, Md., Shipley Transfer Co.; J. Miller Sherwood, Baltimore, Sherwood Bros.; L. E. Looby, Baltimore, American Oil Co.

District of Columbia Subcommittee, Region No. 3—R. M. O'Boyle, Washington, M. I. O'Boyle & Son, chairman; Warren C. Marshall, Upper Darby, Pa., vice-chairman; J. Prentz, Washington, Washington Petroleum Products Co.; W. St. Clair, Washington, Standard Oil Co. of N. J.; W. W. Payne, Washington, The Texas Co.

Virginia Subcommittee, Region No. 3—W. C. Miller, Richmond, Miller Motor Line, Inc., chairman; R. B. Willett, Roanoke, Willett Bros. Transportation, vice-chairman; Frank S. Pratt, Lynchburg, Lynchburg Oil Co.; Lewis Parker, South Hill, Simmons Oil Co.; W. T. Holt, Richmond, W. T. Holt, Inc.; Mel Proffitt, Livingston; M. B. Whiting, Clifton Forge, Whiting Oil Co.; K. Johnson, Richmond, Atlantic Refining Co.; Fred Billups, Richmond, Standard Oil.

West Virginia Subcommittee, Region No. 3—Fred Bannerst, Charleston, W. Va., Elk Refining Co., chairman; Joe Hutchinson, Charleston, W. Va., vice-chairman; Mr. Ford, Ironton, Ohio, Ford Brothers; Mr. Wasmuth, Glendale, W. Va., Wasmuth & Callahan; Murray A. Bean, Moorefield, W. Va.; L. Carlson, Charleston, W. Va., Gulf Refining Co.; L. Huff, Philadelphia, Pure Oil Co.

Region No. 4 (South Atlantic) Committee

H. A. Pillars, Jacksonville, Fla., Motor Fuels Transport, Inc., chairman; L. A. Odom, Spartanburg, S. C., Odom Oil Co., vice-chairman; Earl Thompson, Goldsboro, N. C.; D. W. Royster, Shelby, N. C.; John T. Laney, Camden, S. C., Beard-Laney, Inc.; Ann K. Grass, Jacksonville, Fla., Petroleum Carrier Corp.; J. A. Hall, Macon, Ga., Power Oil Co.; Major G. D. Carter, Miami, Orange State Oil Co.; W. A. Shanahan, Atlanta, Sinclair Refining Co.; Starr Murphy, Columbia, S. C., Standard Oil Co. of N. J.; Geo. Dixon, Atlanta, Gulf Oil Corp.; M. Rickert, Atlanta, Pure Oil Co.

North Carolina Subcommittee, Region No. 4—Earl Thompson, Goldsboro, N. C., chairman; D. W. Royster, Shelby, N. C., vice-chairman; G. B. Cooper, Raleigh, N. C.; Mr. McNinch, Charlotte, N. C.; R. L. Brinson, High Point, N. C., Southern Oil Transportation Co.; W. A. Shanahan, Atlanta, Sinclair Refining Co.; W. H. Morehouse, Charlotte, N. C., Atlantic Refining Co.; Stanley Winborne, Raleigh, N. C., North Carolina Utilities Commission.

South Carolina Subcommittee, Region No. 4—John T. Laney, Charleston, S. C., Beard-Laney, Inc., chairman; L. A. Odom, Spartanburg, S. C., Odom Oil Co., vice-chairman; Calhoun Lemon, Barnwell, S. C., Southern Transportation, Inc., W. L. Heinz, Columbia, S. C.; Ned Marshall, Jr., Rock Hill, S. C.; Starr Murphy, Columbia, S. C., Standard Oil Co. of N. J.; Russell Myers, Spartanburg, S. C., Shell Oil Co.; (Representative) to be selected, Columbia, S. C., South Carolina Public Service Commission.

Georgia Subcommittee, Region No. 4—Ann K. Grass, Jacksonville, Fla., Petroleum Carrier Corp., chairman; J. A. Hall, Macon, Ga., Power Oil Co., vice-chairman; M. J. Baggett, Atlanta, Ga., Walker Hauling Co.; C. L. Jarrell, Savannah, Ga., Colonial Oil Co.; T. J. Tucker, Lyons, Ga.; Geo. Dixon, Atlanta, Ga., Gulf Oil Corp.; O. E. Martin, Atlanta, Ga., Republic Oil Co.; Walter McDonald, Atlanta, Ga., Georgia Public Service Commission.

Florida Subcommittee, Region No. 4—H. A. Pillars, Jacksonville, Fla., Motor Fuels Transport, Inc., chairman; Major G. D. Carter, Miami, Orange State Oil Co., vice-chairman; C. B. Clark, Tallahassee, Fla.; Mr. Blalack, Ocala, Fla.; Cliff Fordham, Tampa, Fla.; R. D. Drisdell, Jacksonville, Fla., Sun Oil Co.; Ed. Jarvis, Louisville, Ky., Standard Oil Co. of Ky.; (Representative) to be selected, Tallahassee, Fla., Florida Railroad Commission.

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More power to Uncle Sam means MORE SALES FOR YOU!

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Cisco Solvent Keeps 'Em Rolling
– and buying!

Cisco Solvent is in the Army now. Yes, sir, this remarkable Cities Service petroleum product which cleans engines internally and restores power to tired motors by removing harmful gum, sludge and varnish from the engine, the transmission or the differential and prolongs the life of all moving parts, has gone to work for Uncle Sam.

It happened just a few weeks ago. A small quantity of Cisco Solvent was ordered by the Army for experimental use on the trucks and transport vehicles of an Army camp in the South. Matched with a competitive product, Cisco Solvent was put through every conceivable test — *and came out with flying colors!* Since then, Cities Service has sent more than 12,000 gallons of Cisco Solvent to this camp alone.

Why not profit by Uncle Sam's experience? Heavy tank or private car, Cisco Solvent keeps 'em rolling with new pep and power. Find out what this famous internal engine cleaner can do for *your* customers. Call the nearest Cities Service office for a Cisco Solvent demonstration right in your own office.

OIL IS AMMUNITION— USE IT WISELY!

CITIES SERVICE OIL COMPANIES

CITIES SERVICE OILS — ONCE-ALWAYS

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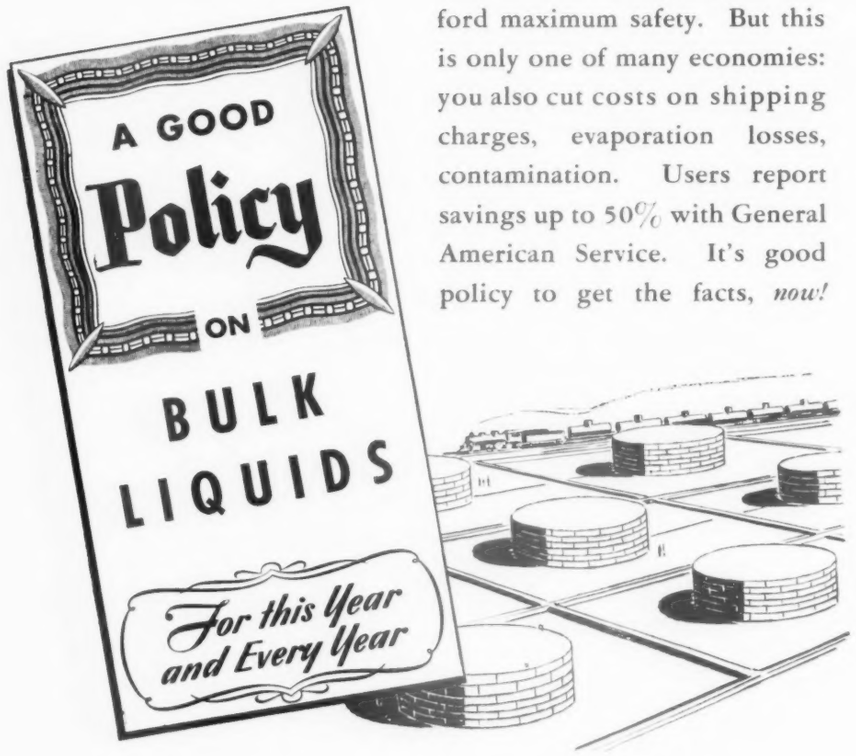
What's your policy on bulk liquids?

When you store bulk liquids at General American Terminals, your insurance policy is based on *minimum* fees — for these ultra-modern storage plants afford maximum safety. But this is only one of many economies: you also cut costs on shipping charges, evaporation losses, contamination. Users report savings up to 50% with General American Service. It's good policy to get the facts, *now!*



ONLY GENERAL AMERICAN GIVES ALL THESE ADVANTAGES:

KEEP 'EM ROLLING!

Freight cars—particularly tank cars—are vital to Victory. They must be loaded, unloaded, kept moving with all possible speed. Delays may cost lives!

1. *RELIABLE CUSTODIANSHIP.* Our warehouse receipts are highest type of collateral everywhere.
2. *MODERN PROTECTION.* Latest safety appliances; lowest insurance rates; minimum evaporation losses.
3. *INDEPENDENT OWNERSHIP.* Strictest privacy. We do not buy, sell or refine any oils.
4. *NO WHARFAGE.* There is no wharfage charge at our own private docks.
5. *SPEED WITH SAFETY.* Day and night crews, complete facilities, eliminate all shipping delays.
6. *LARGE TANK CAR FLEET.* Now working night and day, delivering essentials of war.
7. *NO CONTAMINATION.* Separate pumps, lines, storage zones for dissimilar commodities.

GATX GENERAL AMERICAN

GENERAL AMERICAN TANK STORAGE TERMINALS

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CARTERET, NEW JERSEY (Port of New York)
CORPUS CHRISTI, TEXAS GALENA PARK, TEXAS (Port of Houston)

A DIVISION OF GENERAL AMERICAN TRANSPORTATION CORP.

COMING MEETINGS

JUNE

Illinois-Indiana Petroleum Assn. and American Petroleum Institute, Illinois Basin Chapter, annual meetings combined, Robinson, Ill., Sat., June 6.

National Assn. of Tax Administrators, 10th Annual Conference, Hotel Fort Des Moines, Des Moines, Ia., Sun.-Wed., June 7-10.

American Society of Mechanical Engineers, Semi-Annual Meeting, Cleveland, Ohio, Mon.-Thurs., June 8-11.

Oil Trades Assn. of New York, Sports Day, Pelham Country Club, Pelham Manor, N. Y., Tues., June 9.

North American Gasoline Tax Conference, Regional Conference, New York, N. Y., Fri., June 19.

American Society for Testing Materials, Chalfonte-Haddon Hall, Atlantic City, N. J., Mon.-Fri., June 22-26.

New Jersey Oil Trade Assn., Summer Golf Outing, Newark, N. J., Thurs., June 25.

SEPTEMBER

Oil Trades Assn. of New York, Sports Day, Pelham Country Club, Pelham Manor, N. Y., Tues., Sept. 8.

National Assn. of Assessing Officers, 9th Annual Conference, Cosmopolitan Hotel, Denver, Colo., Wed.-Sat., Sept. 9-12.

National Petroleum Assn., Annual Meeting, Hotel Traymore, Atlantic City, N. J., Wed.-Fri., Sept. 16-18.

New England Tax Conference, Hotel Biltmore, Providence, R. I., Wed.-Thurs., Sept. 30-Oct. 1.

OCTOBER

31st National Safety Congress and Exposition, Stevens Hotel, Chicago, Ill., Mon.-Fri., Oct. 5-9.

Texas Mid-Continent Oil & Gas Assn., 23rd Annual Meeting, Dallas, Tex., Thurs.-Sat., Oct. 8-10.

American Society of Mechanical Engineers, Fall Meeting, Rochester, N. Y., Mon.-Wed., Oct. 12-14.

Indiana Independent Petroleum Assn., Hotel Severin, Indianapolis, Ind., Wed.-Thurs., Oct. 14-15.

National Stripper Well Assn., Annual Meeting, Wichita, Kans., Mon., Oct. 19.

National Tax Conference, Netherlands Plaza Hotel, Cincinnati, Ohio, Mon.-Thurs., Oct. 19-22.

Ohio Petroleum Marketers Assn., Annual Convention and Marketing Exposition, Hotel Deshler-Wallick, Columbus, Ohio, Wed.-Thurs., Oct. 20-21.

Independent Petroleum Assn. of America, 13th Annual Meeting, Wichita, Kans., Tues.-Thurs., Oct. 20-22.

National Lubricating Grease Institute, 10th Annual Meeting, New Orleans, La., Sun.-Thurs., Oct. 25-29.

1942 Illinois Mineral Industries Conference, Campus, University of Illinois, Urbana, Ill., Fri.-Sat., Oct. 30-31.

NOVEMBER

American Petroleum Institute, 23rd Annual Meeting, Stevens Hotel, Chicago, Ill., Mon.-Fri., Nov. 9-13.

American Institute of Chemical Engineers, 35th Annual Meeting, Netherland Plaza, Cincinnati, O., Mon.-Wed., Nov. 16-18.

American Chemical Society, National Chemical Exposition and National Industrial Chemical Conference, Stevens Hotel, Chicago, Ill., Tues.-Sat., Nov. 17-21.

American Society of Mechanical Engineers, Annual Meeting, New York, N. Y., Mon.-Fri., Nov. 30-Dec. 4.

Atlantic Collects 60 Tons Of Old License Plates

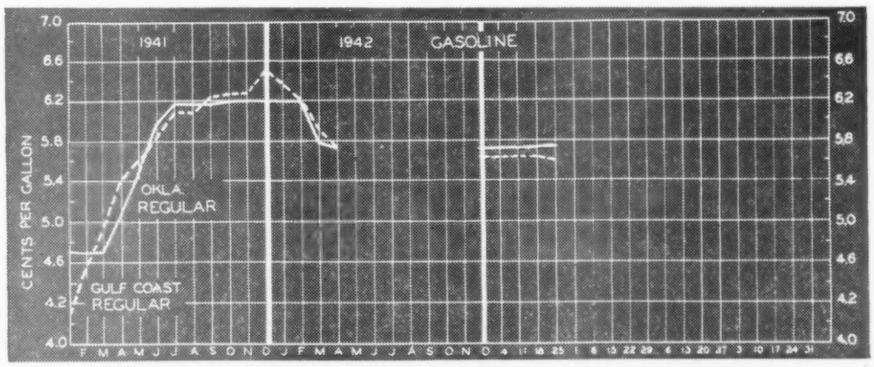
PHILADELPHIA — Atlantic Refining Co.'s "Get-in-the-Scrap" campaign, in which the company's dealers in Pennsylvania and New Jersey collected old license plates during the last two weeks in March to help build up the nation's steel scrap pile, netted $505.41 for the national war fund of the United Service Organizations, Wayne C. Yeager, Atlantic vice-president, announced here today.

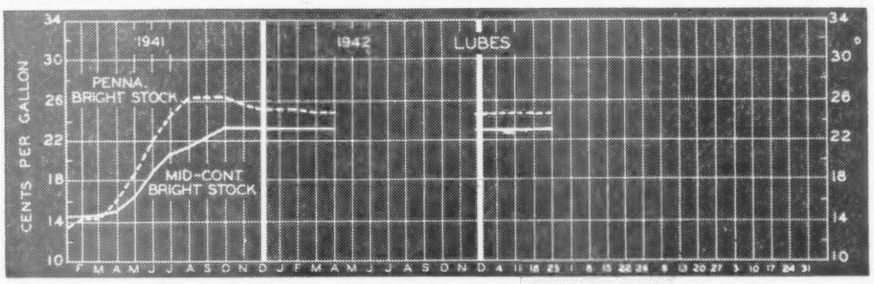
More than 60 tons of plates, including many running back to the early days of state licensing of motor vehicles, were turned in during the drive. As an average set of plates weighs less than a pound, Mr. Yeager estimated that 125,000 motorists cooperated in the campaign.

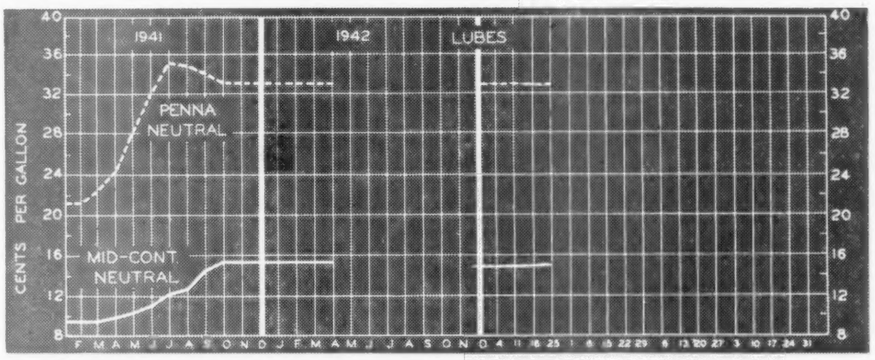
STATISTICS

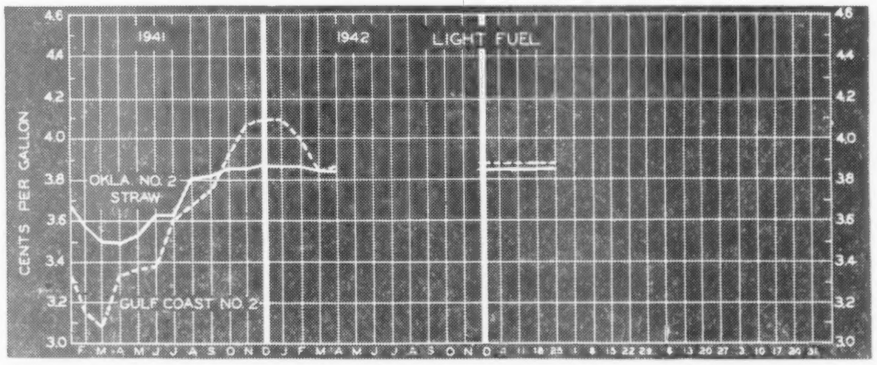
Refinery Prices

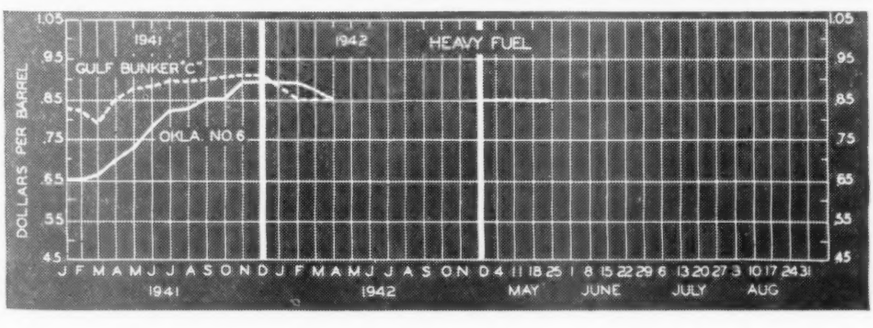
Monthly prices in graphs are averages of daily high and low prices shown in Platt's Oilgram
Weekly prices are averages of high and low prices shown in Monday Oilgram, and in NPN











G. C. R. A. Stocks Report

(Compiled by Gulf Coast Refiners Assn. from reports of member companies. Figures in barrels.)

	May 1	Apr. 15
Gasoline Stocks, Total	3,000,597	2,761,575
Aviation Gasoline	335,266	273,120
Motor Fuel	2,269,275	2,131,866
Naphtha	395,555	356,589
Kerosine	154,022	127,015
Diesel Gas Oil	567,787	489,418
Diesel Fuel	49,188	42,606
Gas Oils, other types	1,346,350	1,203,401
No. 5 Fuel Oil	169,352	290,936
Bunker "C" Fuel Oil	359,797	421,143
Cut-back asphalt	29,824	55,699
Crude Runs (daily avg.)	102,258	104,947

Pennsylvania Lubricating Oils

(Compiled by National Petroleum Assn. from reports of all companies which refine Pennsylvania grade crude oil. Figures in barrels)

	Production April, 1942	Inventory Apr. 30, 1942	Inventory Mar. 31, 1942	Inventory Apr. 30, 1941
1. Raw Long Residuum	87,726	63,088	50,304	34,775
2. 600 Steam Refined Stock	295,998	266,722	268,321	265,438
3. Other Steam Refined Stock	66,568	90,360	79,881	102,902
4. Finished Dewaxed Long Residuum	69,503	46,547	55,164	48,104
5. Bright Stock	182,445	280,770	306,021	422,581
6. Viscous Neutral	77,937	74,811	98,430	68,367
7. Viscous Neutral	101,699	86,776	81,070	98,744

Item 1 includes all raw long residuum below, and not salable as, 600 fire.

Item 2 includes all steam refined stock commonly sold or used as 600 and as raw material for bright stock.

Item 3 includes all material not reported in items 1 & 2.

Item 5 does not include any material reported in item 4.

Item 6 includes viscous neutral below 180 vis. but not below 142 vis. at 100.

Item 7 includes viscous neutral 180 vis. at 100 and above.

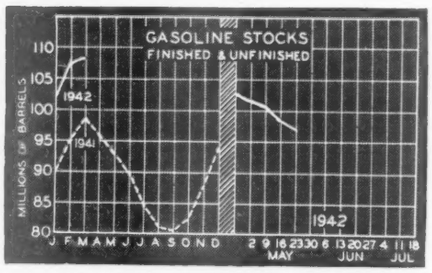
Inventories, Apr. 30, 1942, of Pennsylvania Oils Other than Lubricating Oils

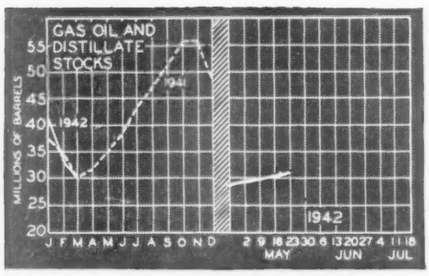
(Compiled by National Pet. Ass'n. from reports of oil region refiners. Figures in barrels).

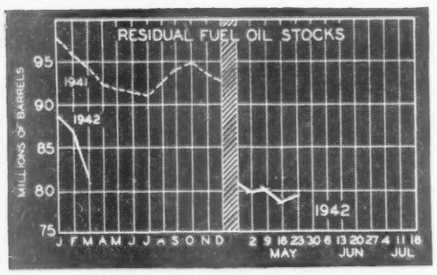
1—Naphthas & Gasoline	
(1) Straight run unblended and/or unleaded, for sale as motor fuel	43,539
(2) Naphtha and gasoline, for sale for blending or further refining, or held at refinery for further distillation, reforming, blending or leading	188,402
(3) Below 65 octane, not included in (1) or (2) above	13,156
(4) 65 octane & above	480,187
2—Salable naphthas other than motor fuel material (does not include refinery process naphthas)	23,346
3—Kerosine	75,823
4—36-40 gas oil (includes furnace oil)	77,157
5—Fuel oil (not reported above)	42,800
6—Oils held as cracking plant charging stocks	264,261
7—Non-viscous neutral	35,084
8—Wax distillate	95,884
9—Crude petrolatum	25,976
10—Wax (lbs.)	3,125,348

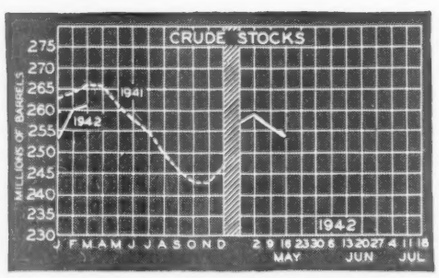
STATISTICS

Monthly figures are actual as reported by Bureau of Mines. Weekly figures are as estimated by American Petroleum Institute on Bureau of Mines basis, except crude stocks which are as reported by Bureau of Mines.









Refinery Operations

(American Petroleum Institute figures in thousands of barrels of 42 gallons each. Figures include reported totals plus an estimate of unreported amounts and are therefore on a Bureau of Mines basis.)

Districts	Daily Potential Refining Capacity Week Ended May 16	Daily Potential Refining Capacity Week Ended May 9	Per Cent of Refining Capacity Reporting Week Ended May 16	Per Cent of Refining Capacity Reporting Week Ended May 9	Daily Average Crude Runs to Stills Week Ended May 16	Daily Average Crude Runs to Stills Week Ended May 9	Per Cent of Reported Capacity Operated Week Ended May 16	Per Cent of Reported Capacity Operated Week Ended May 9
Combined‡	2,383	2,383	87.9	87.9	1,511	1,506	63.4	63.2
Appalachian	174	174	84.5	84.5	159	156	91.4	89.7
Ind., Ill., Ky.	784	784	84.9	84.9	743	709	94.8	90.4
Okla., Kans., Mo.	418	418	81.1	81.1	362	365	86.6	87.3
Rocky Mt.	138	138	50.7	50.7	87	80	63.0	58.0
California	787	787	90.9	90.9	622	590	79.0	75.0
TOTAL U. S.—B. of M. Basis	4,684	4,684	86.9	86.9	3,484	3,406	74.4	72.7
U. S.—B. of M. Basis May 17, 1941					3,860			

Districts	Gasoline Production at Refineries inc. Natural Blended Week Ended May 16	Gasoline Production at Refineries inc. Natural Blended Week Ended May 9	Stocks of Finished and Unfinished Gasoline Week Ended May 16	Stocks of Finished and Unfinished Gasoline Week Ended May 9	Total Stocks Gas Oil & Distillates Week Ended May 16	Total Stocks Gas Oil & Distillates Week Ended May 9	Total Stocks Residual Fuel Oil Week Ended May 16	Total Stocks Residual Fuel Oil Week Ended May 9
Combined‡	4,928	4,710	45,169	45,600	14,215	13,943	16,203	16,040
Appalachian	497	471	3,927	4,089	444	428	632	651
Ind., Ill., Ky.	2,361	2,375	20,635	21,265	2,883	2,755	3,280	3,552
Okla., Kans., Mo.	1,237	1,223	9,637	9,779	844	879	1,553	1,598
Rocky Mt.	297	278	2,474	2,478	320	310	523	510
California	1,625	1,601	17,292	17,439	11,500	11,632	56,635	57,804
Total U. S.—B. of M. Basis	10,945	10,658	99,134*	100,650†	30,206	29,947	78,826	80,155
U. S.—B. of M. Basis May 17, 1941	12,885		94,286		33,657		92,020	

*Finished 91,492,000 bbls.; unfinished 7,642,000 bbls. †Finished 93,072,000 bbls.; unfinished 7,578,000 bbls.

‡Includes East Coast, Inland Texas, Texas Gulf, Louisiana Gulf, and North Louisiana-Arkansas Districts.

Crude Oil Stocks

(Bureau of Mines figures in thousands of barrels)

Grade or Origin	May 9	May 16	Change
Pennsylvania Grade	3,446	3,422	— 24
Other Appalachian	1,356	1,366	+ 10
Lima-Michigan	1,508	1,575	+ 67
Illinois-Indiana	17,062	16,896	—166
Arkansas	3,056	3,029	— 27
Kansas	8,119	8,029	— 27
Louisiana	13,366	13,289	— 77
Northern	4,285	4,251	— 34
Gulf Coast	9,081	9,038	— 43
Mississippi	1,814	1,717	— 97
New Mexico	6,967	6,942	— 25
Oklahoma	50,003	49,335	—668
Texas	93,769	93,683	— 86
East Texas	21,683	21,496	—187
West Texas	23,190	23,282	+ 92
Gulf Texas	25,963	25,708	—255
Other Texas	22,933	23,197	+264
Rocky Mountain	16,280	16,403	+123
California	37,788	37,864	+ 76
Foreign	651	589	— 62
Total U. S. refinable	255,185	254,202	—983
Heavy in California	11,340	11,262	— 78

N.P.N. Gasoline Index

	Dealer T.W. Cents per Gallon	Tank Car Cents per Gallon
May 25	10.46	6.50
Month ago	10.33	6.50
Year ago	9.76	6.38

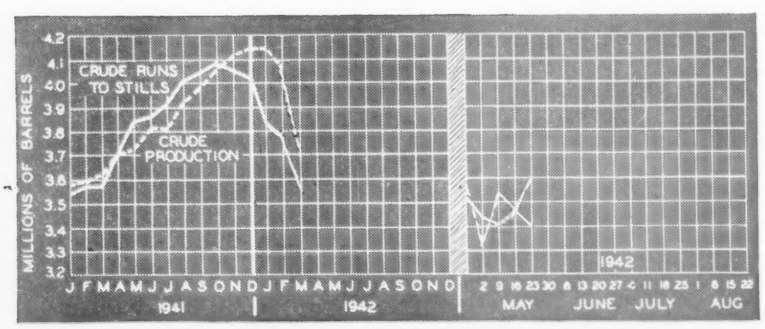
Dealer index is an average of "undivided" dealer prices, ex-tax, in 50 cities.

Tank car index is a weighted average of following wholesale markets for regular-grade gasoline, FOB refineries or terminals: Okla., Mid-Western, W. Penna., Calif., N. Y. Harbor, Philadelphia, Jacksonville, Boston, Gulf Coast.

Pennsylvania Crude Runs

(Compiled by National Petroleum Assn. from reports of all companies which refined Pennsylvania crude. Figures in barrels.)

Week Ended	Daily Average	Week Ended	Daily Average
Jan. 3	72,172	Mar. 14	76,862
Jan. 10	77,676	Mar. 21	79,510
Jan. 17	81,658	Mar. 28	84,185
Jan. 24	84,089	Apr. 4	78,175
Jan. 31	82,603	Apr. 11	82,557
Feb. 7	74,927	Apr. 18	82,067
Feb. 14	77,436	Apr. 25	79,353
Feb. 21	82,682	May 2	80,399
Feb. 28	84,173	May 9	80,761
Mar. 7	80,131	May 16	86,551
		1941 Low	61,384
		1941 High	84,326

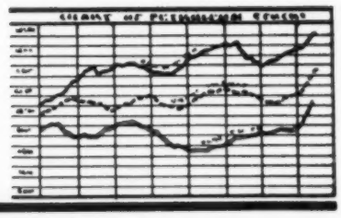

CRUDE RUNS TO STILLS
CRUDE PRODUCTION
MILLIONS OF BARRELS
1942
J F M A M J J A S O N D J F M A M J J A S O N D
1941
1942
2 9 16 23 30 6 13 20 27 4 11 18 25 1 8 15 22
MAY
JUNE
JULY
AUG

Crude Oil Production

(American Petroleum Institute figures)

	WEEK ENDED May 23 Barrels (Daily Average)	WEEK ENDED May 16 Barrels (Daily Average)		WEEK ENDED May 23 Barrels (Daily Average)	WEEK ENDED May 16 Barrels (Daily Average)
Oklahoma	386,250	388,000	Eastern (Ill. & Ind. excluded)	98,250	99,400
Kansas	256,250	261,750	Michigan	62,100	66,700
Nebraska	4,050	4,000	Wyoming	95,150	90,650
Texas	1,203,300	1,067,500	Montana	21,750	21,600
Louisiana	305,200	303,600	Colorado	6,700	7,500
Arkansas	70,850	71,250	New Mexico	54,450	70,750
Mississippi	85,550	87,450	California	631,000	647,200
Illinois	296,300	276,750			
Indiana	21,850	19,800	Total U. S.	3,599,000	3,483,900

Oil MARKETS



Pennsylvania

NEW YORK, May 23—All products continued tight and in heavy demand in Western Penna. the past week, with call "about 5 times greater than supply", according to refiners' reports. Others said they were turning down inquiries and rationing customers. East Coast requirements would absorb anything that was available, refiners said.

Gasoline, which has been more plentiful than other products, was said to be tight now also, surplus having been moved from refineries. One refiner said exemption of Western Penna. from gasoline rationing provisions "has blotted up every surplus drop" of gasoline in district.

Refiners' quotations generally were unchanged but strong, with competition of Kentucky gasoline, kerosine, and fuel said to be a factor in keeping light products prices down in lower field.

Upper field refiner who had been "trying to get 8.45c" for "Q" gasoline, min. 70 oct. (ASTM), said he was sold up now and had nothing to offer in the open market.

Mid-Western

CHICAGO, May 23—Good demand for all refined products in Mid-West during past week. Gasoline movement steady, and brisk call for fuel oils, both light and heavy, reported by most refiners. Scarcity of all products, particularly fuels, according to suppliers. Inventories of many suppliers "low".

Five marketers reported open spot sales during the week totaling 16 cars 78 oct. Ethyl gasoline, 13 cars at 6.125c and 3 at 6.25c, 28 cars "Q" at 5.375c, 3 cars 63-66 oct. at 4.625c, and 4 cars 60 oct. and below at 4.5c, FOB Group 3.

Refiners' Group 3 quotations ranged 6.5 to 6.75c for 78 oct., 5.5 to 6c for 72-74 oct., 5.125 to 5.625c for 63-66 oct., and 4.75 to 5.25c for 60 oct. and below. Marketers quoted 6 to 6.375c, 5 to 5.375c, 4.625 to 4.875c and 4.25 to 4.5c for the 4 products, respectively.

California

LOS ANGELES, May 22—All markets remained unchanged with the exception of gasoline which was slightly weaker. The low of independent refiners for the three grades of gasoline were 4.25c, 5.25c and 6c. Weakness in gasoline was attributed to fact that curtailed consumption was being "hard felt" by smaller independents.

In the fuel oil, gas oil and diesel market, demand continued heavy; prices remained steady.

Mid-Continent

TULSA, May 23—Demand for all refined products remained generally unchanged in Mid-Continent districts the past week. Quotations virtually unchanged.

Some refiners said gasoline supplies were "tightening" as result of OPC's request for reduced gasoline production. One refiner said he was "having trouble" buying sufficient quantities to meet his commitments; another was buying 2,000,000 gal. monthly total, all grades, partly to meet commitments and partly to permit truck shipments to destinations up to 100 miles.

Supplies of all products heavier than gasoline, and especially heavy fuels, lubes and waxes, were reported "tight"; some refiners were "scraping tank bottoms" and shipping daily production. Shipments for most part were limited to small quantities and to regular customers.

Atlantic Coast

NEW YORK, May 23—Quotations for min. 80 oct. (research) gasoline were withdrawn the past week at Albany, Portland, Boston, and Providence by supplier who said he no longer was supplying that grade since his house-brand now was running 72-74 oct. (ASTM). The lower grade material now will be supplied at the same points and the same prices as min. 80 oct. heretofore, he said. One supplier continued to offer min. 80 oct. grade at New York, at 9.8c tank cars, 9.7c barges. Quotations for other products were unchanged.

Call for light fuels said to be "a little easier" but still absorbing all material offered in jobber effort to build up stocks against next season's requirements.

Gulf

NEW YORK, May 23—Sale of 35-45,000 bbls. of 72-74 oct. (ASTM) leaded gasoline at 5.125c was reported at the Gulf the week ended May 23. Aside from prompt lifting, no further details were disclosed. Sale price was 0.125c below refiner's own and other refiners' previous low quotation of 5.25c.

Export inquiry for 4500 to 11,000 tons of 45 cetane gas oil (48-52 d. i.) was reported by refiner who quoted 4c. Buyer later claimed he had bought elsewhere "a little cheaper", but refiner still quoted 4c with minimum of 20,000 bbls. available.

Quotations for all products generally were unchanged. One refiner withdrew his quotation of 3.875c for 42-44 kerosine because of limited material to offer.

Other refiners quoted 41-43 w.w. cargoes at 3.875 to 4.375c.

Index of Governmental Orders Concerning Petroleum Prices

Orders, "requests", "ceilings", and other statements issued by governmental agencies concerning prices of petroleum and products, prices for which are published in this market section of NATIONAL PETROLEUM NEWS, have been published as follows:

	NATIONAL PETROLEUM NEWS	PLATT'S OILGRAM	Platt's OIL-Law-GRAM
Nov. 21, '41—Maximum prices for paraffin wax	Nov. 26, pg. 5	Nov. 21, pg. 1	Pg. 66
Jan. 17, '42—OPA letter restating contents of letters of Nov. 7, 10 and 28, '41:	Jan. 21, pg. 7	Jan. 19, pg. 1	Pg. 135
Jan. 28, '42—Amendment No. 1 to paraffin wax price schedule	Feb. 11, pg. 20	Jan. 29, pg. 1	Pg. 153
Feb. 2, '42—OPA Price Schedule No. 88	Feb. 11, pg. 17	Feb. 4, pg. 1	Pg. 159
Feb. 5, '42—Amendment No. 1 to OPA Price Schedule No. 88	Feb. 11, pg. 18	Feb. 9, pg. 1	Pg. 167
Feb. 7, '42—Amendment No. 2 to OPA Price Schedule No. 88	Feb. 11, pg. 18	Feb. 9, pg. 1	Pg. 167
Amendment No. 1 to Revised Price Schedule No. 88 (Combined form of Schedule 88 and its 4 previously issued amendments)	Mar. 11, pg. 15	Mar. 7, pg. 1	Pg. 205
Mar. 25, '42—Maximum prices for Penna. grade crude	Apr. 1, pg. 19	Mar. 25, pg. 1	Pg. 237
Mar. 26, '42 — Maximum s.s. prices for regular-grade gasoline in East Coast & Pacific Northwest	Apr. 1, pg. 11	Mar. 25, pg. 4	Pg. 243
Mar. 26, '42 — Approval of 0.5c advance in gasoline, Atlantic Coast states	Apr. 1, pg. 10	Mar. 25, pg. 4	Pg. 241
Mar. 26, '42—Approval of 0.4c advance in kerosine and light fuels, Atlantic Coast states	Apr. 1, pg. 10	Mar. 25, pg. 4	Pg. 241
Mar. 26, '42—Maximum prices for Bunker "C" & No. 6 fuel, East & Gulf Coasts	Apr. 1, pg. 11	Mar. 25, pg. 4	Pg. 242
Apr. 4, '42—Minimum 3c margin for operators in Curtailment Area	Apr. 8, pg. 3	Apr. 7, pg. 2	Pg. 271
Apr. 4, '42—Prices for crude from wells opened since Oct. 1, '41	Apr. 8, pg. 5	Apr. 6, pg. 1	Pg. 273
Apr. 18, '42 — Price advance for Ritchie, La. crude	Apr. 22, pg. 10	Apr. 20, pg. 2	Pg. 309
Apr. 27, '42—Tank wagon prices: Arkansas, Montana, New Mexico, Oklahoma, Wyoming	May 13, pg. 7	Apr. 29, pg. 1	Pg. 353
Apr. 28, '42—East Coast advance effective Apr. 30	Apr. 29, pg. 3	Apr. 29, pg. 1	Pg. 355
Apr. 28, '42—Maximum service station prices	May 6, pg. 12	Apr. 29, pg. 2	Pg. 358
May 12, '42—Maximum prices Pacific Coast area	May 20, pg. 7	May 14, pg. 2	Pg. 402

REFINERY and SEABOARD PRICES

In bulk lots by Motor Transport, Tank Car, Barge or Tanker as shown

NOTE—Parenthetical figures after prices indicate number of companies quoting when less than three companies are quoting.

HOW PRICES ARE REPORTED—

Refinery and Seaboard prices in National Petroleum News are gathered by PLATT'S OILGRAM and are published in the Monday issue of the OILGRAM.

PLATT'S OILGRAM is a reporting service issued in three identical editions daily from News Bureaus at New York, Cleveland, and Tulsa, Okla. PLATT'S OILGRAM gathers and publishes what its publisher and representatives believe to be accurate news of sales, prices and current happenings affecting the oil industry and that will be of interest to its subscribers. As this information is usually private, OILGRAM reports it according to what it is able to obtain from sources deemed reliable.

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Publisher reserves the right to change the extent, nature and form of showing this information at any time.

Prices shown in the tables are quotations (meaning sellers' general offers or posted prices), or actual sales prices, reported to OILGRAM by refiners for "open spot" transactions, except as otherwise specified.

Prices arrived at by discounts off a specified price or "market date of shipment," prices named in contracts or prices arrived at in accordance with any arrangement made prior to date of sale, are not for "open spot" transactions and therefore are not considered in making the price tables. Prices made to brokers and prices in "Inter-refinery" transactions are also not considered except as may be noted.

All prices are for "immediate" shipment except in Gulf Coast bulk transactions where shipment is generally to be made in ninety days. Prices are FOB refineries, pipelines, or tanker terminals in districts designated.

Prices shown are for quantities in bulk such as tank car lots, motor transport lots or barge lots; and in cents per gallon; heavy fuel oils are in dollars per barrel of 42 U.S. gallons; wax and petrolatums are in cents per pound. Prices applying to barges or cargoes only are so designated.

Prices do not include taxes or inspection fees. Prices are published at the close of the business day.

Mid-Western prices in the tables were gathered from refiners with offices located in Chicago and the surrounding territory. While the prices are quoted on a Group 3 (Oklahoma) freight basis, this is in accordance with the custom of the oil industry which uses Group 3 as a price basis for the ease of comparing prices even when the material originates in another refining district. Other refinery prices are given by and for the particular refining district where the material is made and from which it is shipped.

When prices obtained by OILGRAM do not conform to these conditions the exception and the new conditions are noted in the news lead or in conjunction with the price table by footnote or otherwise, for the particular refinery or sales district involved.

Crude oil and products covered by OILGRAM'S news and price service, except where noted, have been represented to the publisher as fully up to the customary trade specifications indicated and according to the generally accepted methods of test; and all crude oil and all products thereof as having been lawfully produced and transported.

Any apparent error should be reported to the nearest OILGRAM or National Petroleum News office at once as no correction will be made after the second issue of the OILGRAM or National Petroleum News following its publication.

NOTICE—Owing to great demand, refiners generally limit quotations to regular customers and refuse bids, though higher, from others. Refiners' prices and sales shown; bids reported in market leads.

Summary of Daily Gasoline Prices (May 19 to May 25)

	Monday May 25	Friday May 22	Thursday May 21	Wednesday May 20	Tuesday May 19
U. S. Motor, (ASTM octane)					
78 octane Ethyl:					
Oklahoma	6.375– 6.875	6.375– 6.875	6.375– 6.875	6.375– 6.875	6.375– 6.875
Mid-Western (Group 3 basis)	6.5 – 6.75	6.5 – 6.75	6.5 – 6.75	6.5 – 6.75	6.5 – 6.75
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	6.5 – 6.625	6.5 – 6.625	6.5 – 6.625	6.5 – 6.625	6.5 – 6.625
W. Tex. (For shpt. to Tex. & N. M. dest'ns.)	6.625 (2)	6.625 (2)	6.625 (2)	6.625 (2)	6.625 (2)
72-74 octane:					
Oklahoma	5.5 – 6	5.5 – 6	5.5 – 6	5.5 – 6	5.5 – 6
Mid-Western (Group 3 basis)	5.5 – 6	5.5 – 6	5.5 – 6	5.5 – 6	5.5 – 6
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	5.5 – 5.75	5.5 – 5.75	5.5 – 5.75	5.5 – 5.75	5.5 – 5.75
W. Tex. (For shpt. to Tex. & N. M. dest'ns.)	5.625– 5.75	5.625– 5.75	5.625– 5.75	5.625– 5.75	5.625– 5.75
63-66 octane:					
Oklahoma	5.125– 5.625	5.125– 5.625	5.125– 5.625	5.125– 5.625	5.125– 5.625
Mid-Western (Group 3 basis)	5.125– 5.625	5.125– 5.625	5.125– 5.625	5.125– 5.625	5.125– 5.625
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	5.125– 5.2	5.125– 5.2	5.125– 5.2	5.125– 5.2	5.1 – 5.125
W. Tex. (For shpt. to Tex. & N. M. dest'ns.)	5.375 (1)	5.375 (1)	5.375 (1)	5.375 (1)	5.375 (1)
60 octane & below:					
Oklahoma	4.75 – 5.25	4.75 – 5.25	4.75 – 5.25	4.75 – 5.25	4.75 – 5.25
Mid-Western (Group 3 basis)	4.75 – 5.25	4.75 – 5.25	4.75 – 5.25	4.75 – 5.25	4.75 – 5.25
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	4.5 – 5	4.5 – 5	4.5 – 5	4.5 – 5	4.5 – 5
W. Tex. (For shpt. to Tex. & N. M. dest'ns.)	4.875– 5	4.875– 5	4.875– 5	4.875– 5	4.875– 5
Motor Gasoline, 72-74 octane (ASTM)					
New York harbor	9.2 –10.2	9.2 –10.2	9.2 –10.2	9.2 –10.2	9.2 –10.2
New York harbor, barges	9.1 – 9.2	9.1 – 9.2	9.1 – 9.2	9.1 – 9.2	9.1 – 9.2
Philadelphia district	9.2 – 9.7	9.2 – 9.7	9.2 – 9.7	9.2 – 9.7	9.2 – 9.7
Baltimore district	8.95	8.95	8.95	8.95	8.95
Motor Gasoline:					
Western Penna. Bradford-Warren:					
"Q" Gasoline, Min. 70 Oct. (ASTM)	7.75 (2)	7.75 (2)	7.75 (2)	7.75 (2)	7.75 (2)
Western Penna. Other Districts:					
"Q" Gasoline, Min. 70 Oct. (ASTM)	7.25 – 7.5	7.25 – 7.5	7.25 – 7.5	7.25 – 7.5	7.25 – 7.5

REFINERY PRICES

Gasoline—U. S. Motor (ASTM) except where otherwise specified

Prices in Effect	May 25	May 18
OKLAHOMA		
78 oct. Ethyl	6.375 – 6.875	6.375– 6.875
72-74 oct.	5.5 – 6	5.5 – 6
63-66 oct.	5.125– 5.625	5.125– 5.625
60 oct. & below	4.75 – 5.25	4.75 – 5.25
60-62 400 e.p.	4.875 (1)	4.875 (1)
MID-WESTERN (Group 3 basis)		
78 oct. Ethyl	6.5 – 6.75	6.5 – 6.75
72-74 oct.	5.5 – 6	5.5 – 6
63-66 oct.	5.125– 5.625	5.125– 5.625
60 oct. & below	4.75 – 5.25	4.75 – 5.25
N. TEX. (For shpt. to Tex. & N. M. dest'ns.)		
78 oct. Ethyl	6.5 – 6.625	6.5 – 6.625
72-74 oct.	5.5 – 5.75	5.5 – 5.75
63-66 oct.	5.125– 5.2	5.1 – 5.125
60 oct. & below	4.5 – 5	4.5 – 5
60-62, 400 e.p.	5 (1)	5 (1)
W. TEX. (For shpt. to Tex. & N. M. dest'ns.)		
78 oct. Ethyl	6.625 (2)	6.625 (2)
72-74 oct.	5.625 – 5.75	5.625 – 5.75
63-66 oct.	5.375 (1)	5.375 (1)
60 oct. & below	4.875 – 5	4.875 – 5
CENT. W. TEX. (Prices to truck transports)		
80 oct. & above	6.875 (2)	6.875 (2)
72-74 oct.	5.875 (2)	5.875 (2)
67-69 oct.	5.375 (1)	5.375 (1)
62 oct. & below	5.125 (2)	5.125 (2)
AMARILLO, TEX. (For shpt. to W. Okla. & Tex. differential territory.)		
60 oct. & below	No Price	No Price
60-62, 400 e.p.	No Price	No Price
KANSAS (For Kansas destinations only)		
78 oct. Ethyl	7.125 (1)	7.125 (1)
72-74 oct.	5.875–6.2 (2)	5.875–6.2 (2)
63-66 oct.	5.5 – 5.8 (2)	5.5 – 5.8 (2)
60 oct. & below	5.125–5.4 (2)	5.125–5.4 (2)

Prices in Effect	May 25	May 18
ARK. (For shipment to Ark. & La.)		
72-74 oct., leaded	5.875 (1)	5.875 (1)
70-72 oct. "	5.5 (1)	5.5 (1)
62 oct. "	5.125 (1)	5.125 (1)
60 oct. & below, unleaded	5 (1)	5 (1)
WESTERN PENNA. (Motor gasoline)		
Bradford-Warren:		
"Q" Gasoline, Min. 70 Oct. (ASTM)	7.75 (2)	7.75 (2)
Other districts:		
"Q" Gasoline Min. 70 Oct. (ASTM)	7.25 – 7.5	7.25 – 7.5
CENTRAL MICHIGAN (FOB Central Mich. refinery group basis for shpt. within Mich.; shpts. may originate at plants outside Central group.)		
U.S. Motor: (Oct. ASTM):		
72-74 oct.	8 – 8.5	8 – 8.5
67-69 oct.	7.5 –7.75 (2)	7.5 –7.75 (2)
Str. run gasoline, excluding Detroit shpt.	5 – 5.5	5 – 5.5
OHIO (S. O. Ohio quotations for statewide delivery and subject to exceptions for local price disturbances)		
72-74 oct.	8.375	8.375
CALIFORNIA U.S. Motor:		
78 oct. & above (Ethyl)	6 – 6.5	.....
70-75 oct. (regular)	5.25 – 5.5	.....
65 oct. & below (3rd grade)	4.25 – 4.75	.....

Kerosine, Gas & Fuel Oils

Prices in Effect	May 25	May 18
OKLAHOMA		
41-43 grav. w.w.	4.375– 4.5	4.375– 4.5
42-44 grav. w.w.	4.5 – 4.625	4.5 – 4.625
Range Oil	4 – 4.375	4 – 4.375
No. 1 P.W.	3.875– 4.25	3.875– 4.25
No. 1 straw	3.5 – 4	3.5 – 4
No. 2 straw	3.6 – 4.125	3.6 – 4.125
No. 3 fuel	3.5	3.5
U. G. I. Gas Oil	3.625 (1)	3.625 (1)
No. 6 fuel	$0.80–$0.90 (2)	$0.80–$0.90 (2)
14-16 fuel	$0.95 (1)	$0.95 (1)
MID-WESTERN (Group 3 basis)		
41-43 grav. w.w.	4.375– 4.625	4.375– 4.625
42-44 grav. w.w.	4.5 (2)	4.5 (2)
Range Oil	4 (1)	4 (1)
No. 1 p.w.	3.875– 4.125	3.875– 4.125
No. 2 straw	3.6 – 3.625	3.6 – 3.625
No. 3	3.5	3.5
No. 5	$0.85 (1)	$0.85 (1)
No. 6	$0.80–$0.85 (2)	$0.80–$0.85 (2)
N. TEX. (For shpt. to Tex & N. M. dest'ns.)		
41-43 grav. w.w.	4.25 – 4.75	4.25 – 4.75
No. 1 P.W.	4.1 –4.2 (2)	4.1 –4.2 (2)
AMARILLO, TEX. (For shpt. to W. Okla. & Tex. differential territory.)		
41-43 grav. w.w.	No Price	No Price
No. 1 straw	4.3 (1)	4.3 (1)
KANSAS (For Kansas destinations only)		
41-43 grav. w.w.	No Price	No Price
42-44 gravity w.w.	4.8 –4.875 (2)	4.8–4.875 (2)
No. 1 p.w.	4.25–4.3 (2)	4.25– 4.3 (2)
No. 6 fuel	$0.90 (1)	$0.90 (1)

REFINERY PRICES (Continued)

(NOTE—Parenthetical figures after prices indicate number of companies quoting when less than three companies are quoting.)

NOTICE—Owing to great demand, refiners generally limit quotations to regular customers and refuse bids, though higher, from others. Refiners' prices and sales shown; bids reported in market leads.

Kerosine, Gas & Fuel Oil

(Continued)

Prices In Effect	May 25	May 18
ARK. (For shipment to Ark. and La.)		
41-43 grav. w.w.	4.625 (1)	4.625 (1)
No. 1	4 (1)	4 (1)
No. 2	3.5 (1)	3.5 (1)
No. 3 fuel	3.5 (1)	3.5 (1)
Tractor fuel, for shpt. to Ark. points only.	4.875 (1)	4.875 (1)
WESTERN PENNA.		
Bradford-Warren:		
45 grav. w.w.	6.25 – 6.65	6.25 – 6.65
46 grav. w.w.		
No. 1 fuel	6.5 – 6.65	6.5 – 6.65
No. 2 "	6.5 – 6.725	6.5 – 6.725
No. 3 "	6.5–6.85 (2)	6.5 –6.85 (2)
36-40 gravity	6.25 –6.5 (2)	6.25 –6.5 (2)
Other districts:		
45 grav. w.w.	6.25 – 6.525	6.25 – 6.525
46 grav. w.w.	6.25 – 6.525	6.25 – 6.525
47 grav. w.w.	6.375– 6.65	6.375– 6.65
No. 1 fuel	5.875– 6.25	5.875– 6.25
No. 2 "	5.75 – 6.125	5.75 – 6.125
No. 3 "	5.75 – 6.125	5.75 – 6.125
36-40 grav., Pittsburgh dist. prices excluded	5.75 – 6.125	5.75 – 6.125
CENTRAL MICHIGAN (FOB Central Mich. refinery group basis for shpt. within Mich.; shpts. may originate at plants outside Central group.)		
47-49 gravity w.w.	5.5 – 6	5.5 – 6
P.W. Distillate	5.5	5.5
No. 3 gas oil, Straw	5 – 5.3	5 – 5.3
U.G.I. gas oil	4.5 (2)	4.5 (2)
Fuel Oils (Vis. at 100).		
300-500 Vis.	4 (2)	4 (2)
100-300 Vis	4.5 (2)	4.5 (2)
OHIO (S. O. quotations for statewide delivery)		
Kerosine	7	7
CALIFORNIA		
40-43 grav. w.w.	No Price	4.5 – 6
San Joaquin Valley:		
Heavy fuel	$0.80 –$0.85	$0.80 –$0.85
Light fuel	$0.85 –$0.95	$0.85 –$0.95
Diesel fuel	2.75 – 4	2.75 – 4
Stove dist.	2.75 – 5	2.75 – 5
Los Angeles:		
Heavy fuel	$0.80 –$0.85	$0.80 –$0.85
Light fuel	$0.85 –$0.95	$0.85 –$0.95
Diesel fuel	2.75 – 4	2.75 – 4
Stove dist.	2.75 – 4	2.75 – 5
San Francisco:		
Heavy fuel	$0.90	$0.90
Light fuel	$1.00	$1.00
Diesel fuel	4.5	4.5
Stove dist.	5.5	5.5

Note: All above heavy fuels meet Pacific specification 400; light fuel, spec. 300; Diesel fuels, spec. 200 and stove distillate, spec. 100.

Lubricating Oils

WESTERN PENNA.

Prices are for sales made, or offers reliably reported, to jobbers & compounders only.

Viscous Neutrals—No. 3 col. Vis. at 70° F.

200 Vis. (180 at 100°) 420-425 fl.		
0 p.t.	40.5 (1)	40.5 (1)
10 p.t.	39.5 (1)	39.5 (1)
15 p.t.	38.5 (1)	38.5 (1)
25 p.t.	33	33
150 Vis. (143 at 100°) 400-405 fl.		
0 p.t.	38.5 (1)	38.5 (1)
10 p.t.	37.5 (1)	37.5 (1)
15 p.t.	36.5 (1)	36.5 (1)
25 p.t.	31	31
Cylinder Stocks		
Brt. stk., 145-155 vis. at 210°, 540-550 fl., No. 8 col.		
10 p.t.	30.5 (1)	30.5 (1)
15 p.t.	29.5 (1)	29.5 (1)
25 p.t.	25	25
600 S.R. filterable	15	15
650 S.R.	15.5	15.5
600 fl	16	16
630 fl	17	17
MID-CONTINENT (F. o. b. Tulsa)		
Neutral Oils (Vis. at 100° F. 0 to 10 P.P.)		
Pale Oils:		
Vis. Color		
60-85—No. 2	8	8
86-110—No. 2	8.5	8.5
150—No. 3	14.5	14.5
180—No. 3	15	15
200—No. 3	15	15
250—No. 3	16–16.5	16–16.5
280—No. 3	17	17
300—No. 3	18	18

Lubricating Oils (Cont'd)

Prices In Effect	May 25	May 18
Red Oils:		
180—No. 5	15 (1)	15 (1)
200—No. 5	15 (1)	15 (1)
280—No. 5	No Price	No Price
300—No. 5	17.5 (2)	17.5 (2)

Note: Viscous Neutrals, 15-25 p.p. generally are quoted 0.5c under 0-10 p.p. oils. Non-viscous oils, 15-25 p.p.; generally are quoted 0.25c under 0-10 p.p. oils.

Bright Stock—Vis. at 210°		
200 Vis. D	27 (1)	27 (1)
150-160 Vis. D:		
0 to 10 p.p.	23	23
10 to 25 p.p.	22.5–23	22.5–23
25 to 40 p.p.	23 (1)	23 (1)
150-160 Vis. E	22 (2)	22 (2)
120 Vis. D:		
0 to 10 p.p.	22 (2)	22 (2)
600 S.R. Dark Green	8.5 (1)	8.5 (1)
600 S.R. Olive Green	10–11	10–11
631 S.R.	18.5 (1)	18.5 (1)
Black Oil	5.5 (1)	5.5 (1)

SOUTH TEXAS Neutral Oils

Vis. Color		
Pale Oils: (*Vis. at 100° F.*)		
100 No. 1½-2½	6.5	6.5
200 No. 2-3	8.75	8.75
300 No. 2-3	9.25	9.25
500 No. 2½-3½	10	10
750 No. 3-4	10.25	10.25
1200 No. 3-4	10.375	10.375
2000 No. 4	10.5	10.5
Red Oils:		
100 No. 5-6	6.5 (2)	6.5 (2)
200 No. 5-6	8.75	8.75
300 No. 5-6	9.25	9.25
500 No. 5-6	10	10
750 No. 5-6	10.25	10.25
1200 No. 5-6	10.375	10.375
2000 No. 5-6	10.5–11.5	10.5–11.5

CHICAGO (From Mid-Continent p.l. crude.)

Neutral oils (Vis. at 100° F. 0 to 10 p.p.)

Pale Oils		
Vis. Color		
60-85—No. 2	9.5 (1)	9.5 (1)
86-110—No. 2	10 (1)	10 (1)
150—No. 3	15.5 (1)	15.5 (1)
180—No. 3	16 (1)	16 (1)
200—No. 3	16 (1)	16 (1)
250—No. 3	17 (1)	17 (1)
Red Oils:		
180—No. 5	16 (1)	16 (1)
200—No. 5	16 (1)	16 (1)
250—No. 5	17 (1)	17 (1)
280—No. 5	18 (1)	18 (1)
300—No. 5	18.5 (1)	18.5 (1)

Note: Viscous oils, 15 to 30 p.p. are quoted 0.5c lower; 60-85 and 86-110 No. 2 non-viscous oils, 15 to 30 p.p., 0.25c lower.

Unfiltered Steam Refined: (Viscosity at 210°)		
140	11.5 (1)	11.5 (1)
160	12.5 (1)	12.5 (1)
200	13.5 (1)	13.5 (1)
Bright stocks, 160 vis. at 210 No. 8 color:		
0 to 10 p.p.	24 (1)	24 (1)
15 to 25 p.p.	23.5 (1)	23.5 (1)
30 to 40 p.p.	21.5 (1)	21.5 (1)
E filtered Cyl. Stock	15.5 (1)	15.5 (1)

Note: To obtain prices delivered in Chicago, add 0.25c per gal.

Natural Gasoline

(Group 3 & Breckenridge prices are to blenders on freight basis shown below. Shipments may originate in any Mid-Continent manufacturing district.)

FOB GROUP 3

Grade 26-70 ..... 2.375-2.5 (Qtns) 2.375–2.5 (Qtns.)

FOB BRECKENRIDGE

Grade 26-70 ..... 2-2.25 (Qtns.) 2-2.25 (Qtns.)

CALIFORNIA (FOB plants in Los Angeles basin)

21 pound vapor pressure for blending	4.75 – 5.375	4.75 – 5.375

Naphtha and Solvent

Prices in Effect	May 25	May 18
(FOB Group 3)		
Stoddard solvent	6.625	6.625
Cleaners' naphtha	7.125	7.125
V. M. & P. naphtha	7.125	7.125
Mineral spirits	6.125	6.125
Rubber solvent	7.125	7.125
Lacquer diluent	7.375– 8.125	7.375– 8.125
Benzol Diluent	7.875– 8.625	7.875– 8.625
WESTERN PENNA.		
Bradford-Warren District:		
Stoddard Solvent	7.5 (1)	7.5 (1)
Other Districts:		
Untreated naphtha	7 (2)	7 (2)
Stoddard solvent	7.25 – 7.75	7.25 – 7.75
OHIO (S. O. quotations for statewide delivery): V.M.&P. naphtha, D.C. naphtha, Varnolene & Sohio solvent	10	10
Rubber solvent	9	9

Wax

White Crude Scale:

WESTERN PENNA. (Bbls. C.L.)		
122-124 A.m.p.	4.25	4.25
124-126 A.m.p.	4.25	4.25
OKLAHOMA (C.L., FOB Refinery)		
Semi-refined:		
128 AMP min., white, 50 kilo bags	No Price	No Price
132-134 AMP, bbls.	5.25 (1)	5.25 (1)

CHICAGO (FOB Chicago district refinery of one refiner, in bags, carloads. Carloads, slabs loose 0.4c less. Melting points are EMP (ASTM) methods; add 3° to convert into AMP.)

Fully refined:		
122-124 (bags only)	5.6	5.6
125-127	6	6
127-129	6.25	6.25
130-132	6.55	6.55
132-134	6.8	6.8
135-137	7.55	7.55

Petrolatums

WESTERN PENNA. (Bbls., carloads; tank cars, 0.5c per lb. less.)		
Snow White	6.125– 7.25	6.125– 7.25
Lily White	5.375– 6.125	5.375– 6.125
Cream White	4.375– 5.375	4.375– 5.375
Light Amber	3.375– 3.875	3.375– 3.875
Amber	3.125– 3.625	3.125– 3.625
Red	3 – 3.5	3 – 3.5

Group 3 Freight Rates

To Division Headquarters Points of Standard Oil Co. of Indiana

(Cents Per Gal.)

	Gasoline Kerosine	*Distillate Fuel Oil	Gas Oil and or Residual Fuel Oil
Chicago, Ill.	2.508	2.508	2.516
Decatur, Ill.	2.244	2.244	2.442
Joliet, Ill.	2.508	2.508	2.516
Peoria, Ill.	2.310	2.310	2.442
Quincy, Ill.	2.178	2.178	2.294
Indianapolis, Ind.	2.640	3.034	3.034
Evansville, Ind.	2.442	2.886	2.886
South Bend, Ind.	3.135	3.135	3.330
Detroit, Mich.	4.290	3.996	3.996
Grand Rapids, Mich.	3.828	3.828	3.922
Saginaw, Mich.	4.290	4.144	4.144
Green Bay, Wis.	2.838	2.838	3.182
Milwaukee, Wis.	2.706	2.706	2.738
La Crosse, Wis.	2.574	2.574	2.886
Minneapolis-St. Paul	2.574	2.574	2.886
Duluth, Minn.	2.838	2.838	3.256
Mankota, Minn.	2.574	2.574	2.886
Des Moines, Ia.	2.046	2.046	2.294
Davenport, Ia.	2.310	2.310	2.442
Mason City, Ia.	2.376	2.376	2.604
St. Louis, Mo.	2.046	2.046	2.072
Kansas City, Mo.	1.518	1.518	1.776
St. Joseph, Mo.	1.518	1.518	1.776
Fargo, N. D.	3.564	3.564	3.996
Huron, S. D.	3.036	3.036	3.330
Wichita			
From Ponca City	0.528	0.528	0.592
From Tulsa	0.858	0.858	0.962
From Cushing	0.792	0.792	0.888

*Not suitable for illuminating purposes.

SEABOARD PRICES EXPORT AND COASTWISE

(NOTE—Parenthetical figures after prices indicate number of companies quoting when less than three companies are quoting.)

NOTICE—Owing to great demand, refiners generally limit quotations to regular customers and refuse bids, though higher, from others. Refiners' prices and sales shown; bids reported in market leads

Atlantic Coast

(Prices are of refiners, FOB their refineries & their tanker terminals, & of tanker terminal operators FOB their terminals)—Prices In Effect May 25

MOTOR GASOLINE

District:	Min. 80 Oct. '39 Research (Max. 2 cc. Lead)	72-74 Oct. (ASTM)	68-70 Oct. (ASTM)
N. Y. Harb.	9.8 (1)	9.2 -10.2	9.2 (1)
N. Y. Harb., barges	9.7 (1)	9.1 - 9.2	9.1 (1)
Albany	....	9.3 - 9.5	....
Philadelphia	....	9.2 - 9.7	9.2 (1)
Baltimore	....	8.95	8.85 (1)
Norfolk	....	8.7 - 8.95	8.5 (2)
Wilmington, N. C.	....	8.7 - 8.8	8.4 -8.5 (2)
Charleston	....	8.7 - 8.8	8.1 -8.4 (2)
Savannah	....	8 - 8.9	8 (1)
Jacksonville	....	7.875-8.9	7.875- 8 (2)
Miami	....	8.275-8.9 (2)	7.9 (1)
Tampa	....	7.5 - 8.9	7.875- 8 (2)
Pensacola	....	7 - 7.2 (1)	6.6 -6.8 (1)
Mobile	....	7 - 7.5	6.6 -6.8 (1)
New Orleans	....	6.25 -7.37	....
Portland	....	9.5 - 9.8	....
Boston	....	9.4 - 9.7	9.7 (1)
Providence	....	9.4 - 9.7	....

FUEL OILS

	KEROSINE and/or NO. 1 FUEL	No. 2	No. 3	No. 5	No. 6
N. Y. Harb.	5.7	5.8	5.8	$2.10 -2.25 (a)	$1.80
N. Y. Harb., barges	5.6	5.7	5.7	....	....
Albany	5.9	5.9	5.9	$2.40 (1)	$2.00 (1)
Philadelphia	5.8	5.8	5.8	$2.13 (2)	$1.80
Baltimore	5.8	5.8	5.8	....	$1.80
Norfolk	5.7 - 5.8	5.8	5.8 (1)	....	$1.80 (2)
Wilmington, N.C.	5.65	5.8	....	....	....
Charleston	5.8	5.8 (2)	....	....	$1.75 (2)
Savannah	5.65	....	....	....	$1.75 (1)
Jacksonville	5.4 - 5.65	5.35 (2)	5.35 (1)	....	$1.75 (1)
Miami	5.65 (2)	....	....	....	....
Tampa	5.25 - 5.65	5.35 (2)	....	....	$1.70(1)
Pensacola	4.8 (1)	....	....	....	....
Mobile	4.75	....	....	....	....
New Orleans	4.25 - 4.875	3.75 -3.875 (2)	....	$1.25 (1)	$0.85 (2)
Portland	5.9	5.9	5.9(2)	$2.40 (1)	$1.80(2)
Boston	5.8	5.8	5.8 (2)	$2.10 (2)	$1.80
Providence	5.8	5.8	5.8	$2.05 -$2.10	$1.80

(a) This price is for a straight-run, low pour test No. 5 fuel.

	Bunker C Fuel Ships' bunkers (Ex Lighterage)	Diesel Oil Ships' bunkers (Ex Lighterage)	Diesel Oil Shore Plants	Gas House Gas Oil 28-34 Gravity
N. Y. Harbor	$1.80	$2.402	5.8 -5.9 (2)	5.9 (2)
Albany	$2.00 (1)	$2.602 (1)	5.9 (2)	6.1 (1)
Philadelphia	$1.80	$2.402	....	....
Baltimore	$1.80	$2.402	5.8 (1)	5.8 (1)
Norfolk	$1.80	$2.402	5.8 (1)	5.8 (1)
Charleston	$1.75	$2.402 (2)	5.8 (1)	5.8 (1)
Savannah	$1.75 (1)	$2.242 (1)	....	....
Jacksonville	$1.75 (2)	$2.242-2.247 (2)	....	....
Tampa	$1.70 (2)	$2.242-2.247 (2)	....	....
New Orleans	$0.85	$1.55 (2)	3.75 (1)	3.75 (1)
Portland	$1.80 (2)	$2.502 (2)	5.9 (1)	6(1)
Boston	$1.80	$2.402	5.8 (2)	5.9 (2)
Providence	$1.80	$2.402 (2)	5.8 (1)	5.9 (1)

Wax

(Melting points are AMP, 3° higher than EMP. Prices are FOB refinery and do not include bag, freight or export differentials).

Prices in Effect May 25

Crude Scale:	New Orleans Export	N. Y. Domestic	N. Y. Export
124-6 Yellow	4.25(1)	....	4.25 (1)
122-4 White	....	4.25	4.25
124-6 White	4.25 (1)	4.25	4.25
Fully Refined:			
123-5	5.2 (1)	5.2 (2)	5.2 (1)
125-7	5.2 (1)	5.2 (2)	5.2 (1)
128-30	5.6 (1)	5.6	5.6 (1)
130-32	5.85 (1)	5.85 (2)	5.85 (1)
133-5	6.15 (1)	6.15	6.15 (1)
135-7	6.4 (1)	6.4 (1)	6.4 (1)

Naphtha

Prices in Effect May 25

	V.M.&P. Naphtha	Mineral Spirits
New York Harbor	11 (2)	10
Philadelphia district	11 (2)	10
Baltimore	10.5 (2)	9.5
Boston	11.5 (2)	10.5
Providence	11.5 (1)	10.5 (2)

Pacific Export

(Quotations at seaboard, Los Angeles, cargo lots, except where otherwise noted.)

Prices In Effect	May 25	May 18
375 e.p. blend, 70 oct.	6.375- 6.5	6.375- 6.5
390 e.p. blend, 68 oct.	6.25 - 6.375	6.25 - 6.375
390 e.p. blend, 66 oct.	5.875- 6	5.875- 6
400 e.p. blend, 65 oct. min.	5.875- 6	5.875- 6
U. S. Motor, under 65 octane	5.625	5.625
38-40 grav., w.w. kero., 150 fire point	4.5 - 5	4.5 - 5
41-43 grav., w.w. kero.	4.75 - 5	4.75 - 5
44-grav. w.w. kero.	5 - 5.5	5 - 5.5
Diesel fuel, 24 & above	No Price	$1.25 -$1.30
Diesel fuel, under 24	No Price	$1.15 -$1.25
30-34 grav. diesel (gas oil) Pac. Spec. 200	No Price	$1.25 -$1.35
Grade C fuel, Pac. Spec. 400	No Price	$0.85 -$0.90
In Ship's Bunkers, or deep tank lots:		
Diesel fuel, Pac. Spec. 200	$1.35 -$1.45	$1.35 -$1.45
Grade C fuel, Pac. Spec. 400	$0.85 -$0.90	$0.85 -$0.90
Cased Goods: (Per case)		
375-400 e.p. blend, 65 oct. & above	No Price	$1.50 -$1.60
400 e.p. blend, under 65 oct.	No Price	$1.40 -$1.50
U. S. Motor	No Price	$1.35 -$1.45
40-43 grav. w.w. kero., 150 fire point	No Price	$1.30 -$1.40
Kero., p.w.	No Price	$1.25 -$1.35

Tanker Rates

(Approximate last paid rates, cents per bbl.; Gulf-N. Atlantic, not East of N. Y.)

Hvy. Crude & Fuel (10 to 19.9 gravity)	48
Light Crude, (30 grav. or Lighter)	43
Gasoline	40
Kerosine	40
No. 2 Fuel	42

Note: 200% surcharge permitted on above rates by War Shipping Administration "to cover increased wartime operating expenses."

Gulf Coast

(Prices for sales made or firm offers reliably reported for sales pending in cargoes FOB ship at Gulf, for minimum of 20,000 bbls. Prices are by refiners only to other refiners, export agents, or to large tanker terminal operators at the customary trade specifications noted.)

Prices In Effect May 25

Domestic

Motor Gasoline	
Min. 80 oct. '39 Research, max. 2cc lead	5.5
60-62 Gravity, Max. 400 e.p.	
72-74 oct. leaded (ASTM)	5.125- 6
70 oct. unleaded " "	5.25 - 5.75
68 oct. " "	5.25 - 5.875
65 oct. " "	5.25 - 5.75
60 oct. " "	5
41-43 w.w. kerosine	3.875- 4.375
No. 2 fuel	3.75 - 4
Gas Oil—Less than ½ of 1% sulfur.	
Below 43 diesel index	4
43-47 " "	4
48-52 " "	4
53-57 " "	4.125
58 & above diesel index	4.25
Diesel Oil, ship's bunkers (ex-lighterage)	$1.55-$1.68
Bunker C, " "	$0.85-$0.95
Bunker C, cargoes	$0.85

Export

Motor Gasoline	
60-62 Gravity, Max. 400 e.p.	
72-74 oct. leaded (ASTM)	5.25 - 6
70 oct. unleaded "	5.25 - 5.75
68 oct. " "	5.25 - 5.875
65 oct. " "	5.25 - 5.75
60 oct. " "	5
41-43 w.w. kerosine	3.875- 4.375
Gas Oil—Less than ½ of 1% sulfur.	
Below 43 diesel index	4
43-47 " "	4
48-52 " "	4
53-57 " "	4.125
58 & above diesel index	4.25

MID-CONTINENT LUBES

(At Gulf; in packages, FAS.; in bulk, FOB terminals)

	May 25 Steel Drums	Bulk
200 vis. D 210 brt. stock	34-35 (2)	28.8 (2)
150 vis. D 210 brt. stock 0-10 p.p.	30-31 (2)	24.8 (2)
10-25 p.p.	29.5 (1)	24.3 (1)
100 vis. D 210 brt. stock 0-10 p.p.	29.5 (1)	24.3 (1)
10-25 p.p.	29 (1)	23.8 (1)
200 vis. No. 3 col. neutral: 0-10 p.p.	22 (1)	16.8 (1)

SOUTH TEXAS LUBES

(Vis. at 100°, c. t. 0, blk. exprt. shp., FOB terminals)

Unfiltered Pale Oils: Vis. Color	May 25	May 18
100 No. 3	6.25 (1)	6.25 (1)
200 No. 3	7.75 (1)	7.75 (1)
300 No. 3	8.25 (1)	8.25 (1)
500 No. 3½	9.25 (1)	9.25 (1)
750 No. 4	9.75 (1)	9.75 (1)
1200 No. 4	10.25 (1)	10.25 (1)
2000 No. 4	....	....
Red Oils:		
Vis. Color		
100 No. 5-6	....	....
200 No. 5-6	7.75 (1)	7.75 (1)
300 No. 5-6	8.25 (1)	8.25 (1)
500 No. 5-6	9.25 (1)	9.25 (1)
750 No. 5-6	9.75 (1)	9.75 (1)
1200 No. 5-6	10.25 (1)	10.25 (1)
2000 No. 5-6	11 (1)	11 (1)

TANK WAGON PRICES

Commercial or consumer tank car, tank wagon, dealer, and service station prices for gasoline **do not include taxes;** *they do, however, include inspection fees as shown in general footnote. Gasoline taxes, shown in separate column, include 1.5c federal, and state taxes; also city and county taxes as indicated in footnotes. Kerosine tank wagon prices also do not include taxes; kerosine taxes where levied are indicated in footnotes. Dealer discounts are shown in footnotes. These prices in effect May 25, 1942 as posted by principal marketing companies at their headquarters offices, but subject to later correction.*

S. O. New Jersey

Esso (*Regular Grade*)

	Consumer Tank Wagon	Dealer T.W.	Gasoline Taxes	Kerosine T.W.
*Atlantic City, N. J.	10.2	10.7	4.5	8.3
*Newark, N. J.	10.2	10.7	4.5	8.3
Annapolis, Md.	10.55	11.05	5.5	10.1
Baltimore, Md.	9.95	10.45	5.5	9.1
Cumberland, Md.	11.35	11.85	5.5	10.6
Washington, D. C.	10.2	10.7	4.5	9.6
Danville, Va.	11.65	12.15	6.5	10.85
Norfolk, Va.	10.45	10.95	6.5	10.6
Petersburg, Va.	10.75	11.25	6.5	11.6
Richmond, Va.	10.75	11.25	6.5	11.6
Roanoke, Va.	11.95	12.45	6.5	11.1
Charleston, W. Va.	12.25	12.75	6.5	11.9
Parkersburg, W. Va.	11.55	12.05	6.5	11.6
Wheeling, W. Va.	11.55	12.05	6.5	12.2
Charlotte, N. C.	12.1	12.6	7.5	9.9
Hickory, N. C.	12.65	13.15	7.5	10.9
Mt. Airy, N. C.	12.5	13.0	7.5	10.1
Raleigh, N. C.	11.85	12.35	7.5	10.9
Salisbury, N. C.	12.15	12.65	7.5	11.3
Charleston, S. C.	10.95	11.45	7.5	....
Columbia, S. C.	11.8	12.3	7.5	....
Spartanburg, S. C.	12.5	13.0	7.5	....

	Mineral Spirits T.W.	V.M.&P. T.W.
Newark, N. J.	13	14.5
Baltimore, Md.	15.5	....
Washington, D. C.	15.5	....

Fuel Oils—T.W.	No. 1	No. 2	No. 3
Atlantic City, N. J.	8.3	7.8	7.8
Newark	8.3	7.8	7.8
Annapolis, Md.	....	8.05	....
Baltimore	8.1	7.8	7.8
Washington, D. C.	8.6	8.2	8.2
Norfolk, Va.	8.3	7.6	7.6
Petersburg	8.6	7.8	....
Richmond	8.6	7.8	7.8
Charlotte, N. C.	8.9	9.2	....
Hickory	....	8.8	....
Raleigh	9.9	8.9	....
Charleston, S. C.	....	7.8	....
Columbia	....	8.8	....
Spartanburg	....	9.6	....

*Effective Apr. 30, '42, minimum retail resale price of 14.2c posted thru New Jersey.

Discounts:

Esso gasoline—to undivided dealers, 0.5c off dealer t.w.

Kerosine—1c off t.w. price for 25 gals. or more, under contract thru territory (Baltimore city contract not necessary) except no discount in state of New Jersey.

Naphthas—To buyers taking following quantities at one time: Newark, 2c per gal. on 200 gals. or more, less than 200 gals. 0.5c higher price; Baltimore, 2c off on 25 to 100 gals. and 3c on over 100 gals.; Washington, 2c off to contract buyers.

Socony-Vacuum Oil Co., Inc.

Socony Mobilgas (*Regular Grade*)

	Com. Cons. T.W.	Undiv. Dlr. T.W.	Gasoline Taxes
New York City			
Manhattan & Bronx	10.1	10.6	*5.5
Kings & Queens	10.1	10.6	*5.5
Richmond	9.7	10.2	*5.5
Albany, N. Y.	9.9	10.4	5.5
Binghamton, N. Y.	11	11.5	5.5
Buffalo	10.2	10.7	5.5
Jamestown, N. Y.	10.4	10.9	5.5
Mt. Vernon, N. Y.	10.1	10.6	5.5
Plattsburg, N. Y.	11	11.5	5.5
Rochester, N. Y.	10.8	11.3	5.5
Syracuse, N. Y.	10.5	11	5.5
Bridgeport, Conn.	10	10.5	4.5
Danbury, Conn.	10.5	11	4.5
Hartford, Conn.	10.6	11.1	4.5
New Haven, Conn.	10	10.5	4.5
Bangor, Me.	10.7	11.2	5.5
Portland, Me.	10.3	10.8	5.5
Boston, Mass.	9.9	10.4	4.5
Concord, N. H.	11.4	11.9	5.5
Lancaster, N. H.	12	12.5	5.5
Manchester, N. H.	11.3	11.8	5.5
Providence, R. I.	10	10.5	4.5
Burlington, Vt.	10.9	11.4	5.5
Rutland, Vt.	11	11.5	5.5

	Mineral Spirits T.W.	V.M.&P. T.W.
Buffalo, N. Y.	12.4	13.6
New York City	11	12
Rochester, N. Y.	13.2	14.4
Syracuse, N. Y.	14	....
Boston, Mass.	12	13
Bridgeport, Conn.	†16.3	†17.3
Hartford, Conn.	†16.3	†17.3
Providence, R. I.	13	14

	Kerosine Yard	Kerosine TW	Mobilfuel Diesel TC	Mobilfuel Diesel TW	Mobilheat Fuel Yard	Mobilheat Fuel TW
New York:						
Manhat'n & Bronx	6	8.4	...	8.1	6.1	7.8
Kings & Queens	6	8.4	...	8.1	6.1	7.8
Richmond	5.9	8.4	...	...	6	7.6
Albany	6.1	8.1	6.1	8.1	6.1	7.8
Binghamton	7.5	9.5	...	9.5	7.5	9
Buffalo	7.2	9.2	7.3	9.3	7.3	8.8
Jamestown	7.3	9.3	...	9.4	7.4	8.8
Mt. Vernon	6.1	8.6	...	8.2	6.2	7.8
Plattsburg	6.7	8.7	...	8.7	6.7	8.2
Rochester	7.3	9.3	7	9	7	8.5
Syracuse	7.1	9.1	6.9	8.9	6.9	8.4
Conn.:						
Bridgeport	6.2	...	...	...	6.3	7.6
Danbury	6.7	...	...	...	6.6	7.6
Hartford	6.3	...	...	8.3	6.3	7.8
New Haven	6	...	...	8.1	6.1	7.7
Maine:						
Bangor	6.5	8.5	6.5	8.5	6.5	7.9
Portland	6.1	8.5	6.1	8.1	6.1	7.8
Mass.:						
Boston	6.2	8.4	6	8	6.2	7.8
N. H.:						
Concord	7	9	...	...	7.3	8.8
Lancaster	8.1	10.1	...	...	8.3	9.8
Manchester	7.1	9.4	...	...	7	8.5
R. I.:						
Providence	6.2	8.2	6	8	6.2	7.7
Vermont:						
Burlington	6.7	...	6.6	8.6	6.6	8
Rutland	6.9	...	...	8.8	6.8	8.3

*Does not include 1% city sales tax applicable to price of gasoline (ex tax).

†In steel barrels.

Discounts: Diesel—On t.w. deliveries, 0.5c for at least 400 gals.; 1c for full tank truck.

Atlantic Refining

Atlantic White Flash Gasoline (*Regular Grade*)

	Commercial T.W.	Dealer T.W.	Gasoline Taxes	Kerosine T.W.
Philadelphia, Pa.	10.2	10.7	5.5	10.55
Pittsburgh	10.7	11.2	5.5	10.9
Allentown	10.7	11.2	5.5	10.9
Erie	10.7	11.2	5.5	10.9
Scranton	10.7	11.2	5.5	10.9
Altoona	10.7	11.2	5.5	10.9
Emporium	10.7	11.2	5.5	10.9
Indiana	10.7	11.2	5.5	10.9
Uniontown	10.7	11.2	5.5	10.9
Harrisburg	10.7	11.2	5.5	10.9
Williamsport	10.7	11.2	5.5	10.9
Dover, Del.	....	11.2	5.5	10.9
Wilmington, Del.	....	10.7	5.5	10.4
Boston, Mass.	....	10.9	4.5	8.4
Springfield, Mass.	....	11.8	4.5	9.3
Worcester, Mass.	....	11.5	4.5	8.9
Fall River, Mass.	....	11	4.5	9.0
Hartford, Conn.	....	11.6	4.5	8.3
New Haven, Conn.	....	11	4.5	9.4
Providence, R. I.	....	11	4.5	9
Atlantic City, N. J.	....	10.7	4.5	8.3
Camden, N. J.	....	10.7	4.5	8.3
Trenton, N. J.	....	10.7	4.5	8.3
Annapolis, Md.	....	11.05	5.5	9.1
Baltimore, Md.	....	10.45	5.5	8.1
Hagerstown, Md.	....	11.55	5.5	8.6
Richmond, Va.	....	11.25	6.5	10.6
Wilmington, N. C.	....	11.55	7.5	10.2
Brunswick, Ga.	....	10.4	7.5	*9.4
Jacksonville, Fla.	....	9.4	8.5	10.4

	Mineral Spirits T.W.†	V.M.&P. T.W.†
Philadelphia, Pa.	11	12.5
Lancaster, Pa.	12	13.5
Pittsburgh, Pa.	12.5	13.5

Fuel Oils—T.W.	1	2	3	5	6
Phila., Pa.	8.4	7.8	7.8	5.82	4.82
Allentown, Pa.	8.9	8.1	8.1	....	....
Wilmington, Del.	8.4	7.8	7.8	....	....
Springfield, Mass.	9.3	8.2	8.2	....	....
Worcester, Mass.	8.9	8.1	8.1	....	....
Hartford, Conn.	8.3	7.8	7.8	....	....

*Does not include 1c Georgia kerosine tax.

†Mineral Spirits prices also apply to Stoddard Solvent; V.M.&P. prices also apply to Light Cleaners Naphtha.

Discounts:

Gasoline—to undivided dealers, 0.5c off dealer t.w., except Georgia & Florida dealer t.w. and undivided dealer t.w. prices are same.

Kerosine—Thru Penna. & Delaware, 2c off t.w. price on t.w. deliveries of 25 gals. or more at one time.

S. O. Ohio††

***Sohio X-70 Gasoline (*Regular Grade*)**

	Consumer T.W.	**Reselers	‡S.S.	Gasoline Taxes	†Kerosine T.W.
Ohio, Statewide	12	10	13.5	5.5	9
Akron	12	9.5	12.5	5.5	9
Cincinnati	12	9.5	12.5	5.5	9
Cleveland	12	9.5	12.5	5.5	9
Columbus	12	9.5	12.5	5.5	9
Dayton	12	9.5	12.5	5.5	9
Marietta	12	9.5	12.5	5.5	9
Portsmouth	12	9.5	12.5	5.5	9
Toledo	12	9.5	12.5	5.5	9
Youngstown	12	9.5	12.5	5.5	9

Aviation Gasoline—Statewide

	Consumer T.W.	Gasoline Taxes
Sohio Aviation	14.5	5.5
Esso Ethyl Aviation 73 Oct.	15.5	5.5
Esso Ethyl Aviation 80 Oct.	16.5	5.5
Esso Ethyl Aviation 91 Oct.	17.5	5.5
Esso Ethyl Aviation 100 Oct.	24.5	5.5

†Naphtha—T.W.	Statewide	Lucas County
S. R. Solvent	13.5	13.5
D. C. Naphtha	14.5	14.25
V.M.&P. Naphtha	14.5	14.25
Varnolene	14.5	14.25
Sohio Solvent	14.5	14.25

Fuel Oils—T.W.	No. 1	No. 2	No. 3	No. 4
Ohio, Statewide	8	8	7.5	....
Cleveland	10	10	9.5	7.25

*Renown (third-grade) prices are same as X-70 unless otherwise noted.

**Except authorized agents.

†Kerosine prices are ex 1c state tax. Naphtha prices are ex 1.5c federal & 4c state tax.

‡Prices at company-operated stations.

††Statewide prices are subject to exceptions other than those shown.

Discounts:

Esso aviation—on contract to hangar operators and resellers, 2c off consumer t.w.

Fuel oils—Statewide prices are for t.w. & drum deliveries of 50 gals. or more; prices for deliveries of less than 50 gals. are 0.5c higher. Cleveland Nos. 1, 2, and 3 prices are for bulk deliveries of 5 to 99 gals.; 100 gals. and over are 2c less. Cleveland No. 4 price is for full compartment hose dump only.

Naphthas—to contract consumers off t.w. prices—Statewide: 300 to 999 gals., 0.5c; 1000 to 2499 gals., 0.75c; 2500 to 4999 gals., 1c; 5000 or more gals., 1.5c. Lucas County: Less than 50 gals., tank wagon price; 50 to 249 gals., 0.5c; 250 to 499 gals., 1c; 500 gals or over, 1.5c.

S. O. Kentucky

Crown Gasoline (*Regular*)
Standard (*Third Grade*)

	†Net Crown	Dealer Standard	Gasoline Taxes	Kerosine T.W.
Covington, Ky.	9.5	8.5	6.5	9
Lexington, Ky.	11	8.5	6.5	9
Louisville, Ky.	10.5	9.5	6.5	8.5
Paducah, Ky.	8	8	6.5	8.5
Jackson, Miss.	10.5	9.5	7.5	*8.5
Vicksburg, Miss.	10	9	7.5	*8
Birmingham, Ala.	10.5	9.5	*8.5	9
Mobile, Ala.	9.5	7.5	*9.5	8.5
Montgomery, Ala.	10.5	9.5	*9.5	*9
Atlanta, Ga.	10	...	7.5	*9
Augusta, Ga.	11	...	7.5	*8.5
Macon, Ga.	11	...	7.5	*8.5
Savannah, Ga.	10	...	7.5	*8
Jacksonville, Fla.	10	9	8.5	8
Miami, Fla.	10	9	8.5	8
Pensacola, Fla.	9.5	8.5	*9.5	8
Tampa, Fla.	10	....	8.5	8

*Taxes: In tax column are included these city and county gasoline taxes: Mobile, 2c city; Birmingham, 1c city; Montgomery, 1c city and 1c county; Pensacola, 1c city. Georgia and Montgomery, Ala. have 1c kerosine tax, Mississippi 0.5c, not included in above prices.

†Consumer t.w. prices are same as net dealer prices

S. O. Indiana

Red Crown (*Regular Grade*)
Blue Crown (*Third Grade*)
Dealer Prices

	Red Crown Cons. T.W	Red Crown	Blue Crown	Gasoline Taxes	Kerosine T.W.
Chicago, Ill.	10.9	8.9	8.4	4.5	10.3
Decatur, Ill.	9.1	7.1	7.1	4.5	9.5
Joliet, Ill.	11.9	9.6	8.5	4.5	10.3

(Continued on next page)

Above prices include these inspection fees on both gasoline and kerosine unless otherwise specified, per gallon:
Alabama 1/40c on gasoline, 1/2c on kerosine; Arkansas 1/20c; Florida 1/8c; Illinois 3/100c; Indiana 1/5c in lots of 25 bbls. or less, 2/25c in lots of more than 24 bbls.; Kansas 1/50c; Louisiana 1/32c; Minnesota 7/200c; Missouri 1/50c; Nebraska 3/100c; Nevada, gasoline 1/20c; North Carolina 1/4c; North Dakota 1/20c; Oklahoma 2/25c; South Carolina 1.8c; South Dakota 1/20c; Tennessee 2/5c; and Wisconsin 3/100c.
Kerosine inspection fees only: Iowa 3/50c; Michigan 1/5c per gal.

TANK WAGON PRICES

Commercial or consumer tank car, tank wagon, dealer, and service station prices for gasoline **do not include taxes;** *they do, however, include inspection fees as shown in general footnote. Gasoline taxes, shown in separate column, include 1.5c federal, and state taxes; also city and county taxes as indicated in footnotes. Kerosine tank wagon prices also do not include taxes; kerosine taxes where levied are indicated in footnotes. Dealer discounts are shown in footnotes. These prices in effect May 25, 1942 as posted by principal marketing companies at their headquarters offices, but subject to later correction.*

S. O. Indiana (Cont'd)

Red Crown (*Regular Grade*)
Blue Crown (*Third Grade*)

Dealer Prices

	Red Crown Cons. T.W.	Red Crown	Blue Crown	Gasoline Taxes	Kerosine T.W.
Peoria, Ill.	10.7	9.2	9.1	4.5	10.1
Quincy, Ill.	8.9	7.9	7.9	4.5	10
Indianapolis, Ind.	11.6	9.7	9.6	5.5	*9.8
Evansville, Ind.	11.4	9.9	7.9	5.5	*9.6
South Bend, Ind.	12	10.5	10	5.5	*10.2
Detroit, Mich.	11.4	9.9	9.4	4.5	9.6
Grand Rapids, Mich.	11.4	9.3	9	4.5	9.6
Saginaw, Mich.	11.4	9.9	9.4	4.5	9.6
Green Bay, Wis.	12.2	10.7	9.7	5.5	10.6
Milwaukee, Wis.	12.1	10.6	10.1	5.5	10.5
La Crosse, Wis.	11.9	10.4	9.9	5.5	10.3
Minneapolis-St. Paul	11.9	9.9	9.5	5.5	10.3
Duluth, Minn.	12.2	10.7	10.2	5.5	10.6
Mankato, Minn.	11.9	10.4	9.5	5.5	10.3
Des Moines, Ia.	11.4	9.9	9.4	4.5	*9.8
Davenport, Ia.	11.7	10.2	9.7	4.5	*10.1
Mason City, Ia.	11.7	10.2	9.7	4.5	*10.1
St. Louis, Mo.	10.3	8.8	8.6	*4.5	9.8
Kansas City, Mo.	10.4	8.9	7.9	*4.5	9.4
St. Joseph, Mo.	11	9	8	*4.5	9.6
Fargo, N. D.	12.9	11.4	10.5	5.5	11.3
Huron, S. D.	12.3	10.8	10.3	5.5	10.7
Wichita, Kans.	10.3	8.2	6.5	4.5	8

Stanavo Aviation 73 Octane

Chicago, Ill.	15.7	4.5
Milwaukee, Wis.	15.9	5.5
Minneapolis, Minn.	15.7	5.5
St. Louis, Mo.	15.2	*4.5
Kansas City, Mo.	14.8	*4.5
Fargo, N. D.	16.7	5.5
Huron, S. D.	16.1	5.5

(Prices are base prices before discounts)

	Oleum Spirits	V.M.&P. Naphtha	Stanisol	*Taxes
Chicago,	13.5	13.8	12.8	4.5
Detroit	15.8	15	16.3	4.5
K. C., Mo.	13.3	14.3	13.8	1.5
St. Louis, Mo.	13.7	14.7	13.2	1.5
Milwaukee	14.4	15.4	14.9	5.5
Minneap'ls	14.2	15.2	13.5	5.5

Fuel Oils T. W.
Chicago

	Standard Heater Oil
1-99 gals.	9
100-149 gals.	8
150 gals. & over	7.5

	Stanolex Fuel Oil No. 1	Stanolex Furnace Oil
1-99 gals.	8.5	8.5
100-149 gals.	7.5	7.5
150-399 gals.	7.5	7.5
400 gals. & over	7	7

	Stanolex Fuel Oil A	Stanolex Fuel Oil B
1-99 gals.	8	8
100-399 gals.	7	7
400-749 gals.	6	6
750 gals. & over	5.25	5.25

	Stanolex Bunker C Fuel Oil
1-399 gals.	6.5
400-999 gals.	5.5
1000 gals. & over	4.5

Other Points: Indianapolis	Stanolex No. 1	Stanolex Furnace Oil
1-99 gals.	....	*8.7
100 gals. & over	....	*7.7
Detroit		
1-99 gals.	....	7.8
100 gals. & over	....	6.8
Milwaukee		
1-99 gals.	....	8.7
100 gals. & over	....	7.7
Minneapolis		
1-99 gals.	....	8.5
100 gals. & over	....	7.5
St. Louis		
1-99 gals.	8.3	7.8
100 gals. & over	7.3	6.8
Kansas City		
1-99 gals.	....	7.6
100 gals. & over	....	6.6

*Taxes: In gasoline tax column are included these city taxes—Kansas City, St. Joseph, and St. Louis, 1c. Indiana kerosine and fuel oil prices are ex 4c state tax; Iowa kerosine prices are ex 3c state tax. In naphtha tax column are included 1.5c federal tax and state taxes.

S. O. Nebraska

(*Regular Grade*)

	T.W. Dealer	Gasoline Taxes	Kerosine T.W.
Omaha	11.4 8.9	6.5	9.8
McCook	10.5 9.4	6.5	9
Norfolk	11.9 10.4	6.5	10.3
North Platte	11 9.9	6.5	10
Scottsbluff	12.4 9.5	6.5	9.5

S. O. Louisiana

Esso Gasoline (*Regular Grade*)

	Consumer Tank Wagon	Dealer T.W.	Gasoline Taxes	Kerosine T.W.
New Orleans, La.	8.75	9.25	8.5	*9
Baton Rouge, La.	8.75	9.25	8.5	*9.5
Alexandria, La.	8.75	9.25	8.5	*9.5
Lafayette, La.	9	9.5	8.5	*9
Lake Charles, La.	9	9.5	8.5	*11
Shreveport, La.	8.5	9	8.5	*8
Knoxville, Tenn.	11.5	12	8.5	12.5
Memphis, Tenn.	8.75	9.25	8.5	10.5
Chattanooga, Tenn.	10.5	11	8.5	11
Nashville, Tenn.	10.5	11	8.5	10
Bristol, Tenn.	10.95	11.45	8.5	12
Little Rock, Ark.	9.5	10	8	10

*Louisiana kerosine prices are ex 1c state tax.
Discounts:
Esso Gasoline—To undivided dealers, 0.5c off dealer T.W.

Humble Oil & Refining Co.

Humble Motor Fuel (*Regular Grade*)
Thriftane (*Third Grade*)

	Humble *Tank Wagon	Humble Re-tail	Thriftane *Tank Wagon	Thriftane Re-tail	Gasoline Taxes
Dallas, Tex.	8.5†	10.5	7.5†	8.5	5.5
Ft. Worth, Tex.	8.5††	10.5	7.5‡	9	5.5
Houston, Tex.	8.5	12.5	7.5	10.5	5.5
San Antonio, Tex.	8.5	12.5	7.5	10.5	5.5

	Kerosine *Tank Wagon	Kerosine Retail
Dallas, Tex.	7	11
Ft. Worth, Tex.	7	11
Houston, Tex.	8	11
San Antonio, Tex.		10

	Tank Car
74 Oct. Aviation Gasoline, Clear FOB Baytown, Tex.	8.5

*To all classes of dealers & consumers.
†Less 1c allowance to dealers only.
‡Less 1½c allowance to dealers only.
††Less 2c allowance to dealers only.

The Texas Co.

	Gasoline—Dealer Fire-Chief (*Regular*)	T.W. Indian (*3rd Grade*)	Gasoline Taxes
Dallas, Tex.	8.5*	7.5*	5.5
Ft. Worth, Tex.	8.5*	7.5*	5.5
Wichita Falls, Tex.	8.5	7.5	5.5
Amarillo, Tex.	8.5	7.5	5.5
Tyler, Tex.	8.5*	7.5*	5.5
El Paso, Tex.	9.5	8.5	5.5
San Angelo, Tex.	8.5	7.5	5.5
Waco, Tex.	8.5*	7*	5.5
Austin, Tex.	8.5	7.5	5.5
Houston, Tex.	8.5	7.5	5.5
San Antonio, Tex.	8.5	7.5	5.5
Port Arthur, Tex.	8.5	7.5	5.5

*Less 1c temporary allowance to all dealers.

Continental Oil Co.

(N.B. Prices are Continental's "structural" prices. Prices do not reflect temporary reductions made to meet local competition).

	Conoco Bronz-z-z (*Regular*) †Tank Wagon	Demand (*3rd Grade*)	Gasoline Taxes	Kerosine T.W.
Denver, Col.	11	10	5.5	11
Grand Junction, Col.	12	11	5.5	12
Pueblo, Col.	10.5	9.5	5.5	10.5
Casper, Wyo.	11.5	10.5	5.5	12
Cheyenne, Wyo.	11	10	5.5	11.5
Billings, Mont.	12.5	11.5	6.5	12.5
Butte, Mont.	13.5	12.5	6.5	13.5
Great Falls, Mont.	12.5	11.5	6.5	12.5
Helena, Mont.	13	12	6.5	13
Salt Lake City, Utah	13.5	12.5	5.5	14.5
Boise, Ida.	14.1	13.1	6.5	16.5
Twin Falls, Ida.	15.6	14.6	6.5	17
Albuquerque, N. M.	10.5	9.5	*7	10
Roswell, N. M.	10	9	*7	9.5
Santa Fe, N. M.	10.5	9.5	*7.5	10
Ft. Smith, Ark.	9.5	9.25	*7	9.5
Texarkana, Ark.	9	8	*5.5	9
Muskogee, Okla.	9.5	8.5	7	8.5
Oklahoma City, Okla.	9.5	8.5	7	8.5
Tulsa, Okla.	9.5	8.5	7	8.5

*Taxes: In gasoline tax column are included these city taxes—Albuquerque, & Roswell, 0.5c; Santa Fe, 1c. Texas 4c state tax applies within city limits of Texarkana, Ark.; Okla. 5.5c state applies within city limits of Ft. Smith, Ark.
†To consumers & dealers.

S. O. California

Standard Gasoline (*Regular Grade*)
Flight Gasoline (*Third Grade*)

	Standard Posted Net Tank Truck	Standard Posted Retail	Flight Posted Net Tank Truck	Flight Posted Retail	Gasoline Taxes
San Francisco, Cal.	10	14	9	12	4.5
Los Angeles, Cal.	9.5	13.5	8.5	11.5	4.5
Fresno, Cal.	11	15	10	13	4.5
Phoenix, Ariz.	12	16	10	13	6.5
Reno, Nev.	12	16	11	14	5.5
Portland, Ore.	10.5	14.5	9.5	12.5	6.5
Seattle, Wash.	10.5	14.5	9.5	12.5	6.5
Spokane, Wash.	12.5	16.5	11.5	14.5	6.5
Tacoma, Wash.	10.5	14.5	9.5	12.5	6.5

Std. Aviation 73

	Posted Net Tank Truck	Gasoline Taxes	Kerosine Tank Truck
San Francisco, Cal.	12.5	4.5	11.5
Los Angeles, Cal.	12	4.5	10
Fresno, Cal.	13.5	4.5	12.5
Phoenix, Ariz.	14.5	6.5	12.5
Reno, Nev.	14.5	5.5	13.5
Portland, Ore.	13	6.5	13.5
Seattle, Wash.	13	6.5	13.5
Spokane, Wash.	16	6.5	16.5
Tacoma, Wash.	13	6.5	13.5

Resale & Commercial: T.C. deliveries 0.25c per gal. off posted net tank truck.
Commercial: Retail deliveries, and /or tank truck deliveries of less than 40 gals., 4c per gal. above posted net tank truck price for Standard Aviation and Standard Gasoline, and 3c per gal. above posted net tank truck for Flight Gasoline, except single deliveries, of less than 40 gals. to Marine trade only, which are billed at posted net tank truck price.

Canada

PRICES ON IMPERIAL OIL, LTD.
Per Imperial Gallon, which is 1.2 U. S. Gallons
3-Star Imperial Gasoline (*Regular Grade*)

	†Gasoline T.W.	*Gasoline Taxes	†Kerosine T.W.
Hamilton, Ont.	17.5	11	18
Toronto, Ont.	17.5	11	18
Brandon, Man.	21	10	23
Winnipeg, Man.	20.5	10	22.5
Regina, Sask.	18	10	20
Saskatoon, Sask.	20.8	10	22.8
Edmonton, Alta.	18.9	10	20.9
Calgary, Atla.	16	10	18
Vancouver, B. C.	15	10	24
Montreal, Que.	17	11	17.5
St. John, N. B.	16.5	13	19
Halifax, N. S.	16.5	13	19

*Includes 3c Federal, and Provincial taxes.
†To divided & undivided dealers.

Tank Wagon Price Changes

(These changes have been made in price tables)

Socony-Vacuum—Naphthas:
T.W. prices cut 0.4c May 11 at all points shown in price table.

S. O. Indiana—Red Crown Gasoline:
Decatur t. w. & dealer cut 1.8c at May 19.

S. O. Indiana—Blue Crown Gasoline:
Decatur dealer cut 0.9c May 19.

Above prices include these inspection fees on both gasoline and kerosine unless otherwise specified, per gallon:
Alabama 1/40c on gasoline, 1/2c on kerosine; Arkansas 1/20c; Florida 1/8c; Illinois 3/100c; Indiana 1/5c in lots of 25 bbls. or less, 2/25c in lots of more than 25 bbls.; Kansas 1/50c; Louisiana 1/32c; Minnesota 7/200c; Missouri 1/50c; Nebraska 3/100c; Nevada, gasoline 1/20c; North Carolina 1/4c; North Dakota 1/20c; Oklahoma 2/25c; South Carolina 1/8c; South Dakota 1/20c; Tennessee 2/5c; and Wisconsin 3/100c.
Kerosine inspection fees only: Iowa 3/50c; Michigan 1/5c per gal.

CRUDE OIL PRICES

Prices in $ per bbl. of 42 U. S. gals. at the well. A. P. I. gravity. Prices are effective as of 7 a. m. of dates shown

EASTERN & CENTRAL STATES FIELDS

PENNSYLVANIA GRADE

Posted by Jos. Seep Purch. Agency (Mar. 26, '42)
Bradford-Allegany $3.00
Southwest Penna. $2.65
Eureka (West Va.) $2.59
Corning, O. (May 27, '41) $1.31

Posted by The Pennzoil Co. (Mar. 26, '41)
National Transit $2.93*

Posted by Valvoline Pipe Lines (Mar. 26, '42)
Bradford (Elk & McKean Counties, Pa.) $3.00
Warren, Forest, Venango, Clarion & Butler Counties, Pa. $2.93
Alleghany, Beaver, Washington & Greene Counties, Pa. $2.65
West Virginia $2.59
Southeastern Ohio $2.55

*Applies to Cochran, Franklin, Hamilton & Doolittle districts; prices in other lower districts range down to $2.88 per bbl. at well.

MICHIGAN

Posted by Pure Oil Co. (May 27, '41)
Midland, Midland County $1.44
Sherman $1.39

Posted by Simrall Corp. (May 27, '41)
Greendale, Porter, Vernon, Crystal & Wise $1.44
Buckeye, Bentley, Edenville, Beaverton & Monitor (sweet crude type) $1.42
Freeman, Redding, Lincoln & Winterfield $1.39
West Branch-Arenac $1.24
Hamilton-Grout $1.29

Posted by Sohio Corp. (Mich. Div.)
Traverse crude in Allegan, Kent, Ottawa & Van Buren Cos. (June 2, '41) $1.45
Trenton crude, Monroe Co. (June 2, '41) $1.39

Posted by Bay Pipe Line Corp. (May 27, '41)
Saginaw & Wise $1.44
Clare $1.11
Buckeye, Bentley & Kawkawlin $1.42
Adams (June 1, '41) $1.27

ILLINOIS-INDIANA-KENTUCKY-OHIO

Posted by Sohio Corp. (May 21, '41)
Illinois Basin, including Griffin pool $1.37
Carmi, Storms, Ill. area $1.32
Birk City, Ky. area $1.32
Corydon, Ky. area, Henderson $1.32

Posted by Ohio Oil Co. (May 21, '41)
Illinois Basin $1.37
Eastern Ill. & Western Ind. $1.22

Posted by Carter Oil Co. (May 21, '41)
Loudon, Fayette Co. Ill. $1.37

Posted by Mohawk Oil Lines, Inc. (May 21, '41)
Southern Illinois $1.37

Posted by Ashland Oil & Transp. Co.
Somerset oil in Ash. Lines, Ky.; (June 19, '41)
Big Sandy River $1.38
Kentucky River $1.43

Posted by Ownesboro-Ashland Co.
Owensboro, Ky. area (May 21, '41) $1.32

Posted by S. O. Ohio (Sept. 1, '41)
Lima, Ohio $1.25
Cleveland, Lodi & Chatham (O). areas $1.30

MID-CONTINENT

OKLAHOMA-KANSAS-NORTH TEXAS

(See below for companies posting and dates)

Gravity	Schedule No. 1	Schedule No. 2	Schedule No. 3
Below 21	$0.85	$0.75	$0.81
21-21.9	.87	.78	.83
22-22.9	.89	.81	.85
23-23.9	.91	.84	.87
24-24.9	.93	.87	.89
25-25.9	.95	.90	.91
26-26.9	.97	.93	.93
27-27.9	.99	.96	.95
28-28.9	1.01	.99	.97
29-29.9	1.03	1.02	.99
30-30.9	1.05	1.05	1.01
31-31.9	1.07	1.07	1.03
32-32.9	1.09	1.09	1.05
33-33.9	1.11	1.11	1.07
34-34.9	1.13	1.13	1.09
35-35.9	1.15	1.15	1.11
36-36.9	1.17	1.17	1.13
37-37.9	1.19	1.19	1.15
38-38.9	1.21	1.21	1.17
39-39.9	1.23	1.23	1.19
40 & above	1.25	1.25	1.21

Above schedules posted by:

No. 1: **S. O. Indiana** May 20, '41 in Okla. & Kans. **Sinclair-Prairie** May 20, '41 in Okla. & Kans. beginning with 25-25.9. **Continental** May 19, '41 in Okla. & Kans. beginning with Below 29 at $1.01. **Texaco** May 19, in Okla. & Kans. beginning with 28-28.9.

No. 2: **Carter** May 20, '41 in Okla. **Shell** Dec. 5, '41 in Okla. & Kans. **Magnolia** May 21, '41 in Okla.

No. 3: All Dec. 11, '41: **Stanolind & Continental** in N. Tex. **Sinclair-Prairie** in N. Central Tex. **Magnolia & Texaco** in N. & N. Central Tex. **Continental, Magnolia & Sinclair-Prairie** schedules begin with Below 29 at $0.97. **Texaco** schedule begins with 28-28.9.

TEXAS & NEW MEXICO FIELDS

Posted by Humble Oil & Refining Co.

(May 21, '41, except Panhandle, Tex. July 9, '41 and W. Central Texas Dec. 11, '41)

Gravity	Refugio	Texas Gulf Coast	Mirando	Anahuac	Dickinson	East Central Texas	West Central Texas	Panhandle, Texas	W. Texas & New Mex.	Hawkins Texas
Below 20	$1.08	$1.06	$1.03	$0.98	$0.93	....	....	$0.73	$0.70	$0.80
20-20.9	1.10	1.08	1.05	1.00	.95	....	....	.75	.72	.82
21-21.9	1.12	1.10	1.07	1.02	.97	....	....	.77	.74	.84
22-22.9	1.14	1.12	1.09	1.04	.99	....	....	.79	.76	.86
23-23.9	1.16	1.14	1.11	1.06	1.01	....	....	.81	.78	.88
24-24.9	1.18	1.16	1.13	1.08	1.03	....	....	.83	.80	.90
25 & above	....	....	....	....	....	....	....	....	....	.92
25-25.9	1.20	1.18	1.15	1.10	1.05	$0.97	$0.91	.85	.82	....
26-26.9	1.22	1.20	1.17	1.12	1.07	.99	.93	.87	.84	....
27-27.9	1.24	1.22	1.19	1.14	1.09	1.01	.95	.89	.86	....
28-28.9	1.26	1.24	1.21	1.16	1.11	1.03	.97	.91	.88	....
29-29.9	1.28	1.26	1.23	1.18	1.13	1.05	.99	.93	.90	....
30-30.9	1.30	1.28	1.25	1.20	1.15	1.07	1.01	.95	.92	....
31-31.9	1.32	1.30	1.27	1.22	1.17	1.09	1.03	.97	.94	....
32-32.9	1.34	1.32	1.29	1.24	1.19	1.11	1.05	.99	.96	....
33-33.9	1.36	1.34	1.31	1.26	1.21	1.13	1.07	1.01	.98	....
34-34.9	1.38	1.36	1.33	1.28	1.23	1.15	1.09	1.03	1.00	....
35-35.9	1.40	1.38	1.35	1.30	1.25	1.17	1.11	1.05	1.02	....
36-36.9	1.42	1.40	1.37	1.32	1.27	1.19	1.13	1.07	1.04	....
37-37.9	1.44	1.42	1.39	1.34	1.29	1.21	1.15	1.09	1.06	....
38-38.9	1.46	1.44	1.41	1.36	1.31	1.23	1.17	1.11	1.08	....
39-39.9	1.48	1.46	1.43	1.38	1.33	1.25	1.19	1.13	1.10	....
40 & above	1.50	1.48	1.45	1.40	1.35	1.27	1.21	1.15	1.12	....

Refugio: Includes crude purchased in East White Point, Greta, Melon Creek, O'Connor-McFaddin, Plymouth, Saxet, Taft, & Tom O'Connor fields.

Texas Gulf Coast: Includes crude purchased in Amelia, Clear Lake, Goose Creek, Hastings, Magnet, Mykawa, Mykawa New, Raccoon Bend, South Thompsons, Sugarland, Thompsons, & Webster fields.

Mirando: Includes crude purchased in Blanchard, Bridwell, Colorado, Comitas, Eagle Hill, Escobas, Fitzsimmons, Glen,Government Wells (North & South), Heyser, Hoffman, Kelsey, Kohler, Loma Novia, Lundell, Manilla, Mirando Valley, Placedo, Randado, Sarnosa, & Tesoro fields.

Anahuac: Includes crude purchased in Anahuac, Angleton, Cedar Point, Fishers' Reef, Hull, (Old & New), Pierce Junction, Red Fish Reef, & Turtle Bay fields.

Dickinson: Includes crude purchased in Dickinson, Gilloc, Hardin, League City, & Rowan fields.

East Central Texas: Includes crude purchased in Anderson, Cherokee, Limestone, & Navarro Counties, and Navarro Crossing field.

West Central Texas: Includes crude purchased in Brown, Callahan, Comanche, Eastland, Fisher, Haskell Jones, Shackelford, Stephens, & Throckmorton Counties.

Panhandle, Texas: Includes crude purchased in Carson, Gray, Hutchinson & Wheeler Counties.

West Texas & New Mexico: Includes crude purchased in Andrews, Crane, Crockett, Ector, Gaines, Glasscock, Howard, Reagan, Upton, Winkler, & Yoakum Counties, Texas; Lea County, N. M.

Hawkins: Includes crude purchased in Hawkins Field, Wood County, Texas.

Conroe $1.43
Tomball 1.40
Van 1.08
Talco 0.79
East Texas & Flag Lake $1.25
Flour Bluff, E. Flour Bluff 1.33
Salt Flat, N. Salt Flat 1.14
Darst Creek, Hilbig, Carroll 1.14
Clark, Zoboroski $1.14
Alice, Benavides (N. Sweden), Sun 1.35
Ben Bolt, Clark-Muil, Tom Graham 1.35
Yates (Pecos) 0.95
La Rosa 1.33

MAGNOLIA PETROLEUM CO.

(May 21, '41)

Panhandle, Tex.—(July 9, '41)—Same as Humble except Magnolia begins with below 29 at $0.91.

West Texas—In Crane, Upton, Howard, Glasscock, Mitchell, Winkler, Cochran, Hockley, Yoakum & Gaines Cos., and in Pecos & Andrews Cos. beginning Apr. 1, '42—Same as Humble except Magnolia begins with Below 25 at $0.80.

N. Mexico—In Lea Co.—Same as Humble except Magnolia begins with Below 25 at $0.88 & ends with 36 & above at $1.04.

Cass & Panola Cos., Tex.—Below 25 at $0.88, plus 2c per degree of gravity to 40 & above at $1.20.

Mirando, Tex.—Same as Humble.

East Texas $1.25
Darst Creek 1.14
Luling 1.05
Talco ..... .79
Lytton Springs $1.17
Cleveland-Liberty Co. 1.26
Tomball 1.40

SINCLAIR-PRAIRIE OIL MARKETING CO.

Texas Panhandle—(May 23, '41)—Same as Humble except Sinclair-Prairie begins with Below 25 at $0.83.

West Texas & New Mexico—(May 30, '41)—Same as Humble except Sinclair-Prairie begins with Below 25 at $0.80.

Texas Gulf Coast—(May 21, '41)—Same as Humble.

Mexia District, Texas—(May 30, '41)—Same as Humble, East Central Texas, except Sinclair-Prairie also posts Below 25 at $0.95.

East Texas—(May 21, '41) $1.25
Long Lake, Texas—(May 21, '41) $1.23
Chapel Hill (Washington Co.) Tex.:
Below 50 grav. (Jan 20, '42) $1.18
50 grav. & above (Feb. 2, '42) $1.25

STANOLIND OIL PURCHASING CO.

(May 21, '41)

Clinton, Tex.—Same as Humble Tex. Gulf Coast except Stanolind begins with Below 21 at $1.08.

Fairbanks, N. Houston & Rosslyn, Tex.—Same as Humble Dickinson schedule.

Lake Creek, Tex.—(Apr. 9, '42)—Same as Humble Tex. Gulf Coast except Stanolind begins with Below 21 at $1.08.

E. Texas $1.25
Satsuma & Tomball, Tex. $1.40

STANOLIND OIL & GAS CO.

(May 21, '41)

W. Beaumont & Spindletop (Jefferson Co., Tex.) **& High Island** (Galveston Co., Tex.)—Same as Humble Tex. Gulf Coast.

Hendrick & Henderson (Winkler Co., Tex.)—Same as Humble West Texas except Stanolind begins with Below 26 at $0.82.

Jay Welder (Calhoun Co., Tex.)—Nov. 14, '41—Same as Humble Anahuac.

THE TEXAS CO.

(May 21, '41)

Panhandle, Tex.—Same as Humble except Texaco begins with 34-34.9 at $1.03.

W. Texas & Lea Co., N. M.—Same as Humble except Texaco posts $0.78 for 23.9 & below and ends with 36 & above at $1.04.

Texas Gulf Coast—Same as Humble except Texaco ends with 34 & above at $1.36.

Duval, Mirando, Tex.—Same as Humble Mirando except Texaco ends with 28-28.9 at $1.21.

Refugio, Tex.—Same as Humble except Texaco ends with 28-28.9 at $1.26.

East Texas $1.25
Darst Creek, Tex. $1.14
Conroe, Tex. $1.43
Hockley & Cochran Cos., Tex ..... .87

SHELL OIL CO., INC.

(May 20, '41)

West Texas & Lea Co., N. M.—Same as Humble except Shell ends with 36 & above at $1.04.

Fisher Co., Tex.—(Dec. 11, '41)—Same as Humble W. Central Texas except Shell begins with Below 25 at $0.89.

East Texas $1.25
Livingston field, Polk Co., Tex. $1.25
Pecos Co., Texas, (except Yates Shallow Pool) ..... .95
Pecos Co., Tex., Yates Shallow Pool ..... .82
Mercy field, San Jacinto Co., Tex. (Feb. 27, '42) 1.25

CONTINENTAL OIL CO.

Carson & Hutchinson Cos., Tex.—(July 9, '41)—Same as Humble Panhandle except Continental begins with Below 29 at $0.91.

Mirando, Tex.—(July 1, '41)—Same as Humble.

Wade City & Clara Driscoll, Tex.—(July 1, '41)—Same as Humble Refugio.

Alfred & Magnolia City, Tex.—(May 21, '41), $1.35
Eddy Co., N. M.—(May 30, '41)—Same as Humble N. M. schedule except Continental begins with Below 29 at $0.88.

PAN AMERICAN PRODUCTION CO.

(May 21, '41)

Hastings & S. Houston, Tex.—Same as Humble Tex. Gulf Coast except Pan Am. begins with Below 21 at $1.08.

Gillock, Tex.—Same as Humble Dickinson except Pan Am. begins with Below 21 at $0.95.

East Texas $1.25
Cayuga, Tex. ..... .90
Goodrich, Tex. (Dec. 1, '41) 1.20

CRUDE OIL PRICES

Prices in $ per bbl. of 42 U. S. gals. at the well. A. P. I. gravity. Prices are effective as of 7 a. m. of dates shown.

CALIFORNIA

Posted by S. O. California, May 23, 1941

(All gravities above those quoted take highest price offered in that field)

Gravity	Signal Hill (Long Beach)	Wilmington	El Segundo	Seal Beach	Huntington Beach	Inglewood	Olinda Brea Canon	Athens-Rosecrans	Torrance	Richfield	Whittier East Coyote (La Habra)	Montebello	West Coyote Hills	Santa Fe Springs	Greeley, Canal, Wasco	Coles Levee	Mountain View	Elk Hills, Buena Vista Hills Midway-Sunset, Lakeview Area	Lost Hills	Coalinga	Gravity
14-14.9	....	$0.68	....	....	$0.71	....	$0.70	....	$0.70	$0.70	$0.70	$0.72	....	....	....	....	....	$0.73	$0.73	$0.73	14-14.9
15-15.9	....	.71	....	....	.75	$0.76	.72	....	.72	.71	.72	.72	....	....	....	....	....	.73	.73	.73	15-15.9
16-16.9	....	.74	$0.79	....	.79	.79	.75	....	.74	.73	.75	.72	....	....	....	....	....	.73	.75	.73	16-16.9
17-17.9	....	.78	.82	....	.82	.82	.78	....	.77	.76	.78	.72	....	....	....	....	....	.75	.78	.73	17-17.9
18-18.9	$0.80	.82	.86	....	.86	.85	.81	....	.80	.79	.82	.74	....	....	....	....	....	.78	.81	.73	18-18.9
19-19.9	.84	.86	.90	....	.89	.88	.85	....	.83	.82	.85	.77	....	....	....	....	$0.73	.81	.84	.75	19-19.9
20-20.9	.88	.90	.94	....	.93	.92	.88	....	.86	.85	.89	.80	....	....	....	....	.76	.85	.87	.77	20-20.9
21-21.9	.92	.94	.98	....	.96	.95	.91	....	.89	.89	.92	.84	....	....	....	....	.79	.90	.90	.80	21-21.9
22-22.9	.96	.98	1.02	$0.88	.99	.98	.95	....	.93	.93	.96	.87	....	....	....	....	.83	.94	.93	.83	22-22.9
23-23.9	1.00	1.02	1.05	.92	1.02	1.01	.98	....	.97	.98	1.00	.91	....	....	....	....	.87	.99	.96	.86	23-23.9
24-24.9	1.03	1.06	1.07	.97	1.05	1.04	1.01	....	1.01	1.02	1.03	.94	$0.99	....	....	....	.90	1.03	.99	.89	24-24.9
25-25.9	1.07	1.09	1.10	1.01	1.08	1.07	1.04	....	1.05	1.06	1.07	.98	1.02	....	....	....	.94	1.07	1.01	.92	25-25.9
26-26.9	1.11	1.12	1.12	1.06	1.11	1.10	1.08	....	1.09	1.10	1.11	1.01	1.06	....	....	....	.97	1.11	1.04	.95	26-26.9
27-27.9	1.15	1.15	1.15	1.10	1.14	1.14	1.11	....	1.13	....	1.15	1.05	1.10	$1.04	....	....	1.01	1.15	1.07	.98	27-27.9
28-28.9	1.18	1.18	1.17	1.15	1.17	1.17	1.14	....	1.17	....	....	1.08	1.13	1.08	....	....	1.04	1.19	1.10	1.00	28-28.9
29-29.9	1.20	1.21	....	1.19	1.20	1.20	....	$1.17	....	....	....	1.12	1.17	1.12	....	....	1.07	1.24	1.13	1.02	29-29.9
30-30.9	1.23	1.24	....	....	1.23	1.22	....	1.21	....	Elwood	....	1.15	1.21	1.15	$1.01	$1.09	1.10	1.28	1.16	1.04	30-30.9
31-31.9	....	....	....	....	....	1.24	....	1.25	....	Terrace	....	1.19	1.24	1.19	1.04	1.12	1.14	....	....	1.06	31-31.9
32-32.9	....	....	....	....	....	....	....	1.29	....	F.o.b. Ship	....	1.23	1.28	1.23	1.07	1.14	1.17	....	....	1.09	32-32.9
33-33.9	....	....	....	....	....	....	....	1.32	....	$1.22	....	1.27	....	1.26	1.10	1.17	....	....	....	1.11	33-33.9
34-34.9	Kettleman Hills			....	....	....	....	1.36	....	1.25	....	1.31	....	1.30	1.13	1.20	....	....	....	1.13	34-34.9
35-35.9	....	$1.23	....	....	....	....	....	....	....	1.28	....	1.35	....	....	1.16	1.22	....	....	....	....	35-35.9
36-36.9	....	1.26	....	....	....	....	....	....	....	....	....	1.39	....	....	1.19	1.25	....	....	....	....	36-36.9
37-37.9	....	1.29	....	....	....	....	....	....	....	....	....	1.43	....	....	1.22	....	....	....	....	....	37-37.9
38-38.9	....	....	....	....	....	....	....	....	....	....	....	1.47	....	....	1.25	....	....	....	....	....	38-38.9
39-39.9	....	....	....	....	....	....	....	....	....	....	....	1.51	....	....	....	....	....	....	....	....	39-39.9
40-40.9	....	....	....	....	....	....	....	....	....	....	....	1.53	....	....	....	....	....	....	....	....	40-40.9

Playa Del Rey: (FOB Standard Pipe Line) 20-20.9, $0.80; 21-21.9, $0.84; 22-22.9, $0.87.
Wheeler Ridge: 22-22.9, $0.76; 23-23.9, $0.80; 24-24.9, $0.83.
Newhall, Kern River, Kern Front, McKittrick & Round Mountain: 14-14.9, $0.73.

LOUISIANA-ARKANSAS

Posted by S. O. Louisiana, May 22, '41

Gravity	Atlanta, Ark. et al.	De Soto, La. et al.	Rodessa, La. et al.	Bunkie, La. et al.	Darrow, La. et al.	University, La. (Baton Rouge)
40 & Above	$1.08	$1.18	$1.20	$1.30	$1.30	....
39-39.9	1.06	1.16	1.18	1.28	1.28	....
38-38.9	1.04	1.14	1.16	1.26	1.26	....
37-37.9	1.02	1.12	1.14	1.24	1.24	....
36-36.9	1.00	1.10	1.12	1.22	1.22	....
35-35.9	.98	1.08	1.10	1.20	1.20	....
35 & above	....	....	....	....	....	$1.36
34-34.9	.96	1.06	1.08	1.18	1.18	1.34
33-33.9	.94	1.04	1.06	1.16	1.16	1.32
32-32.9	.92	1.02	1.04	1.14	1.14	1.30
31-31.9	.90	1.00	1.02	1.12	1.12	1.28
30 & below	....	....	....	....	....	1.26
30-30.9	.88	.98	1.00	1.10	1.10	....
29-29.9	.86	.96	.98	1.08	1.08	....
28-28.9	.84	.94	.96	1.06	1.06	....
27-27.9	.82	.92	.94	1.04	1.04	....
26-26.9	.80	.90	.92	1.02	1.02	....
25-25.9	.78	.88	.90	1.00	1.00	....
Below 25	....	.86	.88	.98	....	....
24-24.9	.76	....	.88	....	.98	....
23-23.9	.74	....	.86	....	.96	....
22-22.9	.72	....	.84	....	.94	....
21-21.9	.70	....	.82	....	.92	....
Below 21	.68	....	.80	....	.90	....

Atlanta schedule includes Buckner, Lewisville, Magnolia, Village & Schuler (Jones Sand), Ark.

De Soto schedule includes Sabine, Fouke, Homer, Miller co., Nebo & Sugar Creek.

Rodessa schedule includes Cotton Valley & Shreveport (Cross Lake) ending with Below 25 at $0.88; **Anse La Butte** (Aug. 1, '41); Caddo (Oct. 15, 1941).

Bunkie schedule includes Eola, Olla, South Olla, Pine Prairie (May 21, '42), and University (Baton Rouge) Deep Production (May 22, '42).

Darrow schedule includes Bayou Mallet, Choctaw, Jeanerette, Lirette, N. & S. Crowley, Port Allen, Port Barre, Potash, Roanoke, & St. Martinville.

Big Creek, Dorcheat, McKamie, Distillates (Sour) $1.15
Heavy Smackover Crude ..... .83
Cotton Valley Distillate (Sept. 1, '41) 1.40
Cotton Valley (Holloway Sand Crude) 1.25
Lisbon Distillate 1.20

(Continued next column)

LOUISIANA-ARKANSAS *(Cont'd)*

Posted by Shell Oil Co., Inc. (May 20, '41)

Gravity	Iowa	Roanoke	Gibson
Below 20	$0.99	$0.94	$0.89
20-20.9	1.01	.96	.91
21-21.9	1.03	.98	.93
22-22.9	1.05	1.00	.95
23-23.9	1.07	1.02	.97
24-24.9	1.09	1.04	.99
25-25.9	1.11	1.06	1.01
26-26.9	1.13	1.08	1.03
27-27.9	1.15	1.10	1.05
28-28.9	1.17	1.12	1.07
29-29.9	1.19	1.14	1.09
30-30.9	1.21	1.16	1.11
31-31.9	1.23	1.18	1.13
32-32.9	1.25	1.20	1.15
33-33.9	1.27	1.22	1.17
34 & above	1.29	1.24	1.19

Iowa schedule includes Black Bayou & White Castle La. fields.

Roanoke schedule includes Chalkley, La. field.

Gibson schedule includes S. Houma, Hester & W. Lake Verret, La. fields.

Happytown field, St. Martin Par., La. $1.15

Posted by Arkansas Fuel Oil Corp.

Urania, La. (May 22, '41) $1.15

Posted by Continental Oil Co. (May 21, '41)

Tepetate, La. $1.18
Ville Platte, La. 1.20
Lake Arthur, La. 1.18
Ritchie, La. (Sept. 1, '41) 1.08

Abbeville, La.

Below 36 $1.07	37-37.9 $1.11	39-39.9 $1.15
36-36.9 1.09	38-38.9 1.13	40 & above 1.17

CANADIAN FIELDS

Posted by Imperial Oil Limited

Western Ontario (Nov. 6, 1939)

Petrolia ..... $2.10 Oil Springs $2.17

Turner Valley Crude Oil (July 16, '41)

(Prices FOB producer's tankage)

33-33.9 $1.35	44-44.9 $1.57	55-55.9 $1.79
34-34.9 1.37	45-45.9 1.59	56-56.9 1.81
35-35.9 1.39	46-46.9 1.61	57-57.9 1.83
36-36.9 1.41	47-47.9 1.63	58-58.9 1.85
37-37.9 1.43	48-48.9 1.65	59-59.9 1.87
38-38.9 1.45	49-49.9 1.67	60-60.9 1.89
39-39.9 1.47	50-50.9 1.69	61-61.9 1.91
40-40.9 1.49	51-51.9 1.71	62-62.9 1.93
41-41.9 1.51	52-52.9 1.73	63-63.9 1.95
42-42.9 1.53	53-53.9 1.75	64 & over 1.97
43-43.9 1.55	54-54.9 1.77	

Absorption Gasoline (July 16, '41)

90% Rec., 20 lb. Reid v. p. $2.28
90% Rec., 17 lb. Reid v. p. 2.44

ROCKY MOUNTAIN FIELDS

Posted by Stanolind Oil & Gas Co. (May 20, '41)

Salt Creek (except Tensleep crude), Midway & Dutton Creek, Wyo.

Below 29 $0.96	32-32.9 $1.04	36-36.9 $1.12
29-29.9 .98	33-33.9 1.06	37-37.9 1.14
30-30.9 1.00	34-34.9 1.08	38-38.9 1.16
31-31.9 1.02	35-35.9 1.10	39-39.9 1.18
		40 & above 1.20

Wyoming:		Wyoming:	
Tensleep Crude	$0.6785	Grass Creek Light	$1.00
Frannie Light	.70	Grass Creek Heavy	.50
Frannie Heavy	.47	Elk Basin	1.00
Hamilton Dome	.45	Hes, Colo.	1.07

Posted by Ohio Oil Co. (May 20, '41)

Elk Basin, Wyo. $1.00
Grass Creek Wyo., Light 1.00
Rock Creek, Wyo. 1.15
Lance Creek, Wyo., (July 1, '41) 1.12

Posted by Continental Oil Co. (May 21, '41)

Ft. Collins & Wellington, Col.

Below 29 $0.96	32-32.9 $1.04	36-36.9 $1.12
29-29.9 .98	33-33.9 1.06	37-37.9 1.14
30-30.9 1.00	34-34.9 1.08	38-38.9 1.16
31-31.9 1.02	35-35.9 1.10	39-39.9 1.18
		40 & above 1.20

Canon City & Florence, Col.	$1.05	Big Muddy, Wyo., (May 30, '41)	$1.08
Cat Creek, Mont.	1.15	Lance Creek, Wyo., (July 1, '41)	1.12

Posted by Independent Pipe Line Co. (Aug. 1, '41)

Falls City, Neb., field price $0.90
Falls City, Neb., loaded in tank cars 0.95
Shubert, Neb., loaded in tank cars 0.97

SOUTHEASTERN FIELDS

Posted by Allied Pipe Line Corp.

Tinsley (Miss.) Crude (Oct. 16, '41)

24-24.9	$0.745	32-32.9	$0.905
25-25.9	.765	33-33.9	.925
26-26.9	.785	34-34.9	.945
27-27.9	.805	35-35.9	.965
28-28.9	.825	36-36.9	.985
29-29.9	.845	37-37.9	1.005
30-30.9	.865	38-38.9	1.025
31-31.9	.885	39-39.9	1.045
		40 & above	1.065

Pickens (Miss.) Crude (Dec. 16, '41)

24-24.9	$0.685	32-32.9	$0.845
25-25.9	.705	33-33.9	.865
26-26.9	.725	34-34.9	.885
27-27.9	.745	35-35.9	.905
28-28.9	.765	36-36.9	.925
29-29.9	.785	37-37.9	.945
30-30.9	.805	38-38.9	.965
31-31.9	.825	39-39.9	.985
		40 & above	1.005

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One 1939—95 H.P. Ford V-8, 157" Wheel Base, 23,000 miles, equipped with 1000 gallon, six compartment Butler tank. $1,000.00 cash, F.O.B. Kansas City, Missouri. For particulars write "Hi" Lewis Oil Company, Kansas City, Missouri.

FOR SALE two (2) White Semi-Tractors in good running condition. One tractor with 3,555 gallon tank, other with 3,793 gallon tank. Falls Oil Company, 671 Grattan St., Chicopee Falls, Mass.

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1—Serial No. 790293—5", 5 stage, 6" suction. Name plate rating, 500 GPM, 1050 ft. Total Dynamic head, 1750 RPM, 300 HP, 5" discharge.
1—Serial No. 768147, 5", 5 stage, 5" discharge, 6" suction. Name plate rating, 1000 GPM, 750 ft. Total Dynamic head, 1750 RPM, 300 HP.
1—Serial No. 736268—5", 5 stage, 5" discharge, 6" suction. Name plate rating, 1000 GPM, 750 ft. Total Dynamic head, 1750 RPM, 300 HP.

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PERSONALS

J. P. Davidson, president of Memphis Oil Co., Memphis, Tenn., has a brand new job where there is no rationing, priority or other marketing problems. Mr. Davidson tells NPN that he is now working for Uncle Sam at $21 a month as a buck private.

* * *

A perfect bowling score of "300" has been chalked up by **Charles Maston,** sales manager of Socony-Vacuum for Indiana, thus entitling him to enter the bowlers' hall of fame. (Previously, his score has averaged about 127).

* * *

Three oil men will take over duties on July 1 as officers of the Chicago Section of the American Chemical Society. They are: **L. M. Henderson,** Pure Oil Co., first vice-chairman; **T. H. Rogers,** Indiana Standard, second vice-chairman; and **M. H. Arveson,** Indiana Standard, newly elected director.

* * *

John F. Ryan has been appointed sales representative of railroad division for Socony-Vacuum. He will be located at Chicago, Ill.

* * *

May issue of *Standard Oil Bulletin,* published by California Standard, lists 3 changes in the company's directorate: **A. S. Russell,** vice president and member of the board, has retired; **P. H. Patchin** has been elected to vice-presidency; and **R. B. Follis,** general manager of manufacturing, has been elected to the board.

Mr. Russell has worked with the company since 1911. He served as chief engineer of the manufacturing department, vice-chairman of the department and manager of the El Segundo refinery. He became a director in 1931 and vice-president in 1941.

Mr. Patchin joined the company in 1919. He has served as assistant to the president, member of the board since 1935 and is now assigned to handle new company activities, mainly in Washington, D. C.

Mr. Follis began work for the company in 1918 as an office boy. He then left to attend University of California and Princeton. After graduation from the latter college in 1924, he re-entered company service. He has been assistant superintendent of Bakersfield refinery, superintendent of the Pasotex refinery, member of manufacturing committee, and manager of cracking plant at San Francisco.

Jesse G. Kline

Jesse G. Kline, assistant controller and chief cost accountant of Atlantic Refining Co., was elected president of the Philadelphia chapter of the National Association of Accountants at the annual meeting in Philadelphia May 21. Mr. Kline previously had served the Philadelphia Chapter as director of program and director of publicity.

Mr. Kline is a graduate of Muhlenberg College and attended Wharton School of Finance at the University of Pennsylvania. Following service in the last war and with United States Bureau of Standards, he joined the Atlantic company in 1924. For the last 10 years he has been in charge of installing cost systems for the company's refineries, distribution plants, and service stations.

* * *

When **Hiram M. Dow** of Roswell, N. M. (above), who takes NPN's place of honor on the frontispiece (page 2) this week as first chairman of the recently-created National Conference of Petroleum Regulatory Authorities, gets "away from it all" on his ranch in the Guadalupe Mountains, he really is away from it all. Nearest telephone is a hundred miles away. But that suits Mr. Dow fine as he finds himself completely at home on a cow horse, riding herd on the white-faced cattle which he raises in partnership with **J. R. Turnbull,** Houston, Tex., oil man.

Harry C. Wiess of Houston, president of Humble Oil and Refining Co., is heading the USO campaign in Texas. **John R. Suman,** also of Humble, is state vice-chairman of the campaign which is asking Texans for $1,110,000 as their part of the national USO fund. **Tom Pickering,** Gulf Oil Corp. executive at Odessa, Tex., is chairman of the USO campaign in that county.

* * *

Fred Wemple of Midland, Tex., Magnolia distributor, has been elected president of the Texas Good Roads Assn., a body which promotes wise highway use and encourages highway building.

* * *

E. F. Lambert, Toronto, Canada, announces that he has terminated his connection as public relations officer with the Office of the Oil Controller for Canada.

* * *

Lyman B. Veeder, Shell's national retail lubrication representative, has announced the marriage of his daughter, Mary Evelyn, to **Lt. Robert Miller McCreary** of U. S. Army.

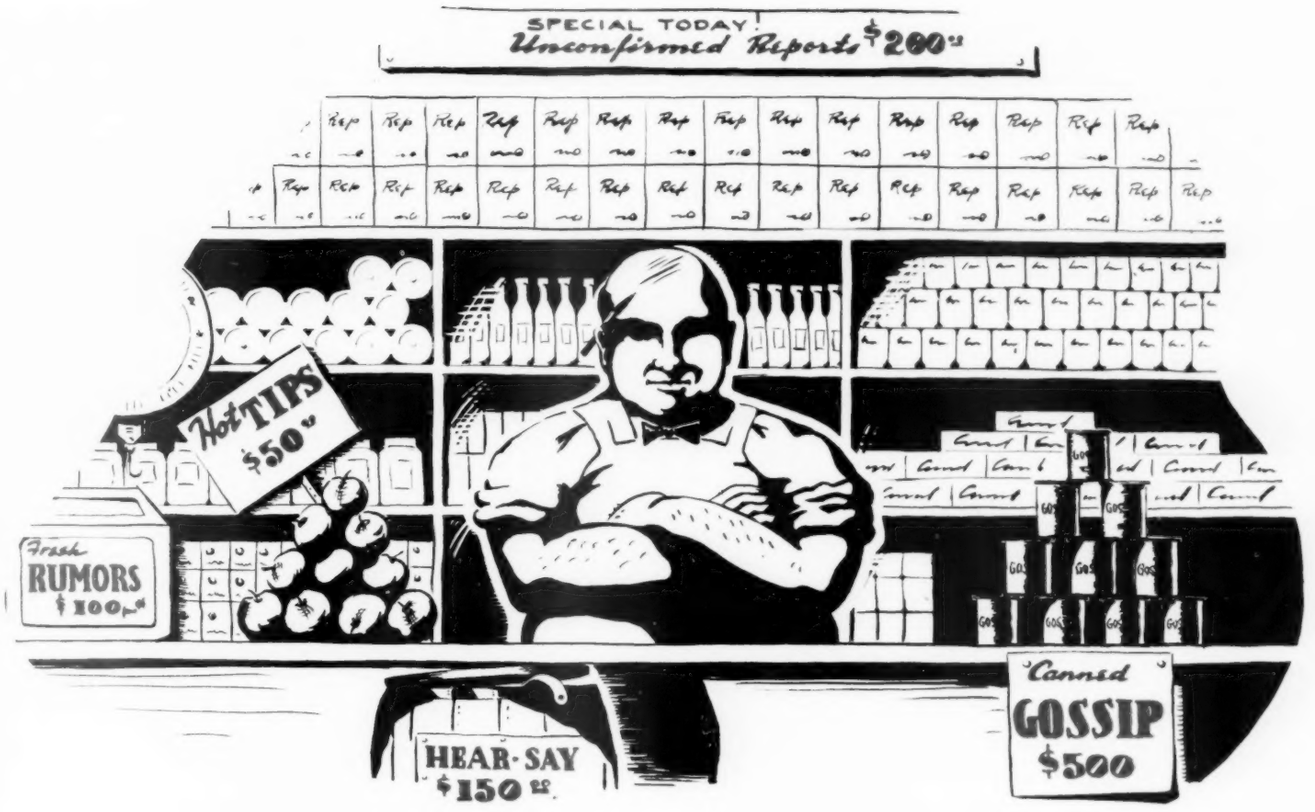
* * *

H. D. Humpstone, president of New Jersey Standard's subsidiary West India Oil Co. at Santiago, Chile, has retired after 28 years in South America. In addition to being president of two of Jersey's South American subsidiaries and working for a third, he has had many thrilling experiences.

One evening he stopped in a South American town after making an inspection trip. Suddenly, gunfire broke out and soon a full-fledged revolution raged around his hotel. He escaped injury, but when the shooting was over the next morning, he found several bullet holes in the bed, a mirror smashed, and an extra suit perforated with holes. Only the hotel manager's eloquence enabled Mr. Humpstone to maintain his neutrality when the rebel army wanted the hotel guests to join forces with them.

In spite of this experience, he maintains that his most thrilling moment was when he landed a 20-lb. trout from the San Pedro River in Chile after an hour's battle. This was the largest ever reported caught in that stream.

Mr. Humpstone is a Cornell graduate and started to work for New Jersey Standard at New York in 1913.



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